

{In Archive} 980 Hurricane Road, Franklin, IN - Two Critical Questions

US EPA RECORDS CENTER REGION 5

Eric Welling

to:

Juan Thomas 03/26/2009 12:31 PM

Hide Details

From: "Eric Welling" <ewelling@nthconsultants.com>

To: Juan Thomas/R5/USEPA/US@EPA,

History: This message has been replied to and forwarded.

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Dear Mr. Thomas,

I appreciated the opportunity to speak with you on the phone today regarding the 980 Hurricane Road, Franklin, IN property questionnaire I forwarded to your attention on February 4, 2009. Just to summarize our phone conversation, as of today's date, March 26, 2009, I have not received back any written or verbal responses to our questionnaire. You indicated to me that your office is overloaded with numerous requests as well as the management of active projects, which has made it extremely difficult for you to find time to dedicate to answering our questions. You did indicate that if NTH could narrow our questions down to one or two critical questions, that you would do your very best to respond back to us in the very near future with answers to those couple of questions.

Consequently, the most critical questions at this point relate to the potential transfer of liability to a new property owner (both legally and financially). Solely based on USEPA's interpretation of its own Administrative Order of Consent, could you please respond to the following two questions:

1. Assuming that the Dec 11, 1998 Administrative Order of Consent is the most recent version and currently enforceable, under section IV.B. it states:

"No change in ownership or corporate or partnership status relating to the Facility will in any way alter Respondents' responsibility under this Order. Any conveyance of title, easement or other interest in the Facility, or a portion of the Facility, shall not affect Respondents' obligations under this Order."

Does the USEPA intend this to mean that any new owner or entity that puts their name in the chain of title will not be held legally or financially responsible for current contamination cleanup activities?

2. Have the Respondents put up the \$1.5 M up front for the remedial activities as required under Section XXII.B. of the Dec 11, 1998 Administrative Order of Consent? Who starts to pay for ongoing remedial efforts if and when that money runs out?

Since time is critical for my client to make important purchasing decisions, NTH needs to continue to move forward with finalizing our Phase I ESA report. We look forward to receiving your information to these two questions within the next week. Thank you again for your time and assistance.

Eric A. Welling, M.S. Senior Project Professional NTH Consultants, Ltd.



{In Archive} Re: Questionnaire For 980 Hurricane Road Franklin, IN Eric Welling

to:

Juan Thomas 03/02/2009 10:03 AM

Cc:

robhschafstall Hide Details

From: "Eric Welling" <ewelling@nthconsultants.com>

To: Juan Thomas/R5/USEPA/US@EPA,

Cc: robhschafstall@earthlink.net

Archive: This message is being viewed in an archive.

Dear Mr. Thomas,

I have two weeks from this Thursday marked down as the 30 day point (March 19th). If there is any way to complete it in an expedited manner, we would be very appreciative.

Please give me a call if you have any questions. Thank you so much for your help. Have a great week!

Eric A. Welling, M.S. Senior Project Professional NTH Consultants, Ltd. 303 N. Alabama Street, Ste. 110 Indianapolis, IN 46204-2152

317-735-7645 Direct 317-735-7649 FAX 317-523-6173 Cell ewelling@nthconsultantscom www.nthconsultants.com



>>> <Thomas.Juan@epamail.epa.gov> 2/17/2009 4:46 PM >>> Mr. Welling,

Thank you for your interest in the former Franklin Power Products/
Amphenol Site, located in Franklin, Indiana. I have not had an
opportunity to respond to your request to date. Given the nature of some
of your questions, I actually had to inquire as to whether your request
should be better handled through my colleagues under the FOIA. Some of
your questions require some research as this site is in the operations
and maintenance phase of the corrective measures implementation under
RCRA. As such the company is required to provide semiannual reporting
not routinely of the content material you requested. As I want to be
accommodating to your request, I have to do it around issues/projects of

facility, I would appreciate your input.

Per your request, I am forwarding a few questions that NTH Consultants would like for you to answer in regards to your knowledge of contamination related issues and your oversight of the remedial activities. Please feel free to type in your answers and return to me at this e-mail account. Please feel free to also attach any additional documents if you believe they are useful in explaining your answers. Please understand that often, simple and concise answers are better than long complicated responses. Don't feel obligated to write elaborate responses unless you believe it best.

If I could have your responses e-mailed back to me within a week (by Tuesday, February 10, 2009), that would be great. If you have questions or need clarification on anything, feel free to contact me. I look forward to receiving your information. Have a great day!

Eric A. Welling, M.S. Senior Project Professional NTH Consultants, Ltd. 303 N. Alabama Street, Ste. 110 Indianapolis, IN 46204-2152

317-735-7645 Direct 317-735-7649 FAX 317-523-6173 Cell ewelling@nthconsultantscom www.nthconsultants.com

NTH Consultants, LTD. ********

This electronic communication and its appended documents are forwarded to you for convenience. If this electronic transmittal contains design information or recommendations (and not just general correspondence), NTH Consultants, Ltd. (NTH) will submit final hard copy materials bearing the consultant's original signature and seal for your records, and this hard copy will serve as a final record. In the event of conflict between electronic and hard copy documents, the hard copy will govern. This communication and its appended documents are the property of NTH and may contain information that is confidential or otherwise protected from disclosure. The information it contains is intended

IND 044 587 848



December 5, 2007

Mr. Juan Thomas, RCRA Project Manager US EPA Region 5 RCRA Corrective Action Program 77 W. Jackson Boulevard Chicago, IL 60604

Re:

DCE Contamination of Indiana-American Water Company Webb Plant

Drinking Water Supply

Dear Mr. Thomas:

Thank you for organizing and participating in our November 27th, 2007 meeting with EPA, Amphenol, and Indiana-American Water Company ("INAWC") representatives at your offices in Chicago, Illinois. As you know, INAWC is greatly concerned about the elevated levels of 1,2 DCE in the public drinking water well fields in Franklin, Indiana.

As outlined during our meeting, INAWC did not cause or contribute to the release of the contaminants in the drinking water wells. Nonetheless, INAWC has spent time and resources investigating the potential sources of the contamination, implementing measures to ensure that the contamination is not passed on to the public through the drinking water, as well as investigating additional actions INAWC must take to prevent and eliminate further risks to the drinking water supply. While INAWC believes it has provided adequate data and information to EPA evidencing that the former Franklin Power Products Site is the source of the 1,2 DCE contamination to the well fields, EPA indicated an interest in collecting additional data. Specifically, EPA suggested that Amphenol and INAWC work together to perform vertical profiling in five new wells, with Amphenol constructing three wells for vertical profiling in locations between the Franklin Power Products site and INAWC's well fields and along the flow path modeled in the 1997 Wittman Hydro Planning report (the "WHPA Report") and INAWC constructing two wells for vertical profiling at points to the north of the flow path modeled in the WHPA Report.

Following our meeting, I met with various American Water Company managers, including Mr. David Baker, the President of Indiana-American Water Company, Mr. Alan DeBoy, the American Water Company's Central Region Director of Engineering, and Ms. Cindy Hebenstreit, the American Water Company's Central Region Director of Environmental Management, to discuss the next steps to more definitely determine the source of the contamination. While EPA's suggested approach of dividing the well installation responsibility might be acceptable in a situation where INAWC had also caused the contamination, INAWC does not believe it is appropriate where, as in this case, INAWC has not been responsible for any releases associated with this contamination. INAWC has already expended and will continue to expend substantial resources to address the Franklin Power Products



Juan Thomas December 5, 2007 Page 2

site contamination and protect the quality of the public water supply. Please understand that while INAWC has already taken the steps necessary to protect its customers and ensure that the well field contamination does not endanger human health and will continue to cooperate with EPA in that effort, INAWC believes that the potential sources of the contamination should bear the costs of additional investigation. Therefore, INAWC believes that Amphenol should be responsible for installation of all five wells proposed by the Agency. Whether Amphenol installs all five wells or just the three that they have already agreed to install, INAWC looks forward to working with EPA in continuing to protect the public water supply and looks forward to seeing the results of the additional sampling from the newly installed wells.

Please feel free to contact me if you have any questions regarding our position.

Sincerely,

Dan Haddock

INAWC Engineering Manager

cc: Mr. Samuel S. Waldo, Amphenol Corporation, EHS Director

Gerald Phillips, US EPA Region 5 RCRA Corrective Action Manager

Larry Johnson, US EPA Region 5 Attorney

Gary Cygan, US EPA Region 5 Hydrogeologist

George Hamper, US EPA Region 5 Section Chief

Jim Sullivan, IDEM Groundwater Section Chief

Patrick Carroll, IDEM OWQ Drinking Water Branch Chief

Mr. John Bonsett, Johnson County Health Department Administrator

Bradley Gentry, IWM Consulting

Rob Duncan, IWM Consulting

Jack Wittman, Whitman Hydro Planning Associates

David Baker, INAWC President

Cindy Hebenstreit, AWC Director of Environmental Management

Jeff Robinson, INAWC Water Quality Manager

USEPA, FRANKLIN POWER PRODUCTS/AMPHENOL AND INDIANA AMERICAN WATER CORPORATION (INAWC)

MEETING SUMMARY OF NOVEMBER 27, 2007 USEPA REGION V OFFFICE, CHICAGO, IL

Attendance: Juan Thomas, USEPA Project Manager

Gary Cygan, USEPA Hydrogeologist George Hamper, USEPA Section Chief Sam Waldo, FPP/Amphenol Project Manager Bradley Gentry, IWM Consulting (FPP/Amphenol) Rob Duncan, IWM Consulting (FPP/Amphenol)

Jack Wittman, Wittman Hydro Planning Associates (WHPA)

Jeff Robinson, INAWC Water Quality Manager Daniel Haddock, INAWC Engineering Manager

After formal introductions of all meeting participants, Jeff Robinson provided a brief overview of the INAWC concerns associated with cis-1,2 DCE contamination occurring at the INAWC Webb Wellfield Production Wells since the 1980's. The continued presence of cis-1,2 DCE occurring in the production wells has resulted in two of the three production wells being shut down due to the systems inability to treat VOC's. Jack Wittman then discussed his initial involvement with the contamination issue at the Webb Wellfield commencing in the mid-1990's when he was hired by the INAWC to determine possible origins and causations of the cis-1,2 DCE contamination. Mr. Wittman proceeded to discuss the development of a regional groundwater flow model that he concludes "captures the essence" of what is occurring regionally and supports the conclusion that the former Franklin Power Products is the source of the cis-1,2 DCE contamination. Mr. Wittman then proceeded to state that he wanted to provide a commentary or rebuttal to the information provided by IWM in their Phase I Supplemental Site Assessment Data Evaluation Report dated September 17, 2007, particularly as it related to FPP/Amphenol's comments associated with his WHPA 1997 Report. Juan Thomas suggested that the meeting redirect its focus to discussing strategies that collectively can be decided upon and agreed to by FPP/Amphenol and the INAWC in order to definitively answer the question as to whether or not FPP/Amphenol is the source of the cis-1,2 DCE contamination. Sam Waldo then proceeded to inform all parties that notwithstanding the conclusions drawn from the WHPA 1997 Report, FPP/Amphenol was comfortable with the data collected from its most recent Supplemental Site Investigation and that they were not the source of the cis-1,2 DCE contamination at the Webb Wellfield. Mr. Waldo stated that he was amenable to a joint investigation effort undertaken by FPP/Amphenol and the INAWC that would provide the INAWC with data that would support a conclusion that FPP/Amphenol is or is not, the source of the contamination. Mr. Waldo stated that his objective was to establish a joint strategy to further characterize the capture zone of the Webb Wellfield, including the potential flow path between the FPP/Amphenol site and Webb Wellfield.

Other Points of Discussion:

- If an agreement is reached based on the proposal, the cost of the next phase of
 investigation will be borne by the respective companies for their components of the
 investigation
- "Vertical Aquifer Profiling" will be the groundwater sampling methodology implemented in this phase of study
- Brad Gentry and Rob Duncan of IWM will provide cost estimates for the proposed work to both FPP/Amphenol and INAWC and make its best effort towards utilizing the same contractors for the proposed work
- FPP/Amphenol and INAWC will discuss the proposed agreement to its respective corporate management personnel for approval
- Upon concurrence from Gary Cygan of the proposed well locations, workplans will be developed and submitted to EPA in approximately three weeks (Update: Gary Cygan has reviewed these locations and he agrees that they are appropriate).
- Gary Cygan will provide an example of a sampling protocol and lab requirements for the "vertical aquifer profiling" methodology, which will be used as a guide for the workplans to be developed
- Respective Workplans will be submitted by both FPP/Amphenol and the INAWC and if necessary a follow-up meeting will be scheduled
- Field work is projected to begin in January or early February 2008
- George Hamper will make arrangements to have either Gary Cygan or another EPA
 Hydrogeologist on-site during field activities as needed.

December 5, 2007



Mr. Juan Thomas, RCRA Project Manager US EPA Region 5 RCRA Corrective Action Program 77 W. Jackson Boulevard Chicago, IL 60604

Re: DCE Contamination of Indiana-American Water Company Webb Plant Drinking Water Supply

Dear Mr. Thomas:

Thank you for organizing and participating in our November 27th, 2007 meeting with EPA, Amphenol, and Indiana-American Water Company ("INAWC") representatives at your offices in Chicago, Illinois. As you know, INAWC is greatly concerned about the elevated levels of 1,2 DCE in the public drinking water well fields in Franklin, Indiana.

As outlined during our meeting, INAWC did not cause or contribute to the release of the contaminants in the drinking water wells. Nonetheless, INAWC has spent time and resources investigating the potential sources of the contamination, implementing measures to ensure that the contamination is not passed on to the public through the drinking water, as well as investigating additional actions INAWC must take to prevent and eliminate further risks to the drinking water supply. While INAWC believes it has provided adequate data and information to EPA evidencing that the former Franklin Power Products Site is the source of the 1,2 DCE contamination to the well fields, EPA indicated an interest in collecting additional data. Specifically, EPA suggested that Amphenol and INAWC work together to perform vertical profiling in five new wells, with Amphenol constructing three wells for vertical profiling in locations between the Franklin Power Products site and INAWC's well fields and along the flow path modeled in the 1997 Wittman Hydro Planning report (the "WHPA Report") and INAWC constructing two wells for vertical profiling at points to the north of the flow path modeled in the WHPA Report.

Following our meeting, I met with various American Water Company managers, including Mr. David Baker, the President of Indiana-American Water Company, Mr. Alan DeBoy, the American Water Company's Central Region Director of Engineering, and Ms. Cindy Hebenstreit, the American Water Company's Central Region Director of Environmental Management, to discuss the next steps to more definitely determine the source of the contamination. While EPA's suggested approach of dividing the well installation responsibility might be acceptable in a situation where INAWC had also caused the contamination, INAWC does not believe it is appropriate where, as in this case, INAWC has not been responsible for any releases associated with this contamination. INAWC has already expended and will continue to expend substantial resources to address the Franklin Power Products





{In Archive} FPP/Amphenol - Webb Well Field Contamination

Daniel. Haddock to: Juan Thomas

12/10/2007 07:47 AM

Jeff.Robinson, Tara.Callahan, Cindy.Hebenstreit, Alan.DeBoy, Cc: David.Baker, jack, Ken.Buczek, "Brad.Gentry", GARY CYGAN, George Hamper, Rob Duncan, Sam Waldo

From:

Daniel.Haddock@amwater.com

To:

Juan Thomas/R5/USEPA/US@EPA,

Cc:

Jeff.Robinson@amwater.com, Tara.Callahan@amwater.com,

Cindy.Hebenstreit@amwater.com, Alan.DeBoy@amwater.com, David.Baker@amwater.com,

jack@wittmanhydro.com, Ken.Buczek@amwater.com, "Brad.Gentry"

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2 attachments



Letter to USEPA 7 Dec 2007 - FPP Amphenol Contamination.pdf



FPPAmphEPAINAWCMtgsummry112707fnl.doc

Juan -

Attached is a letter mailed to you Friday pertaining to INAWC's decision regarding further investigation. Please feel free to contact me with any questions.

(See attached file: Letter to USEPA 7 Dec 2007 - FPP Amphenol Contamination.pdf)

Respectfully,

Daniel Haddock, Engineering Mgr American Water - Central Region daniel.haddock@amwater.com W 317.885.2445 M 317.696.6980

Thomas.Juan@epama il.epa.gov

12/06/2007 03:26 PM Daniel.Haddock@amwater.com

cc

"Brad.Gentry"

Spentry@iwmconsult.com>,

Cygan.Gary@epamail.epa.gov,

Hamper.George@epamail.epa.gov,

jack@wittmanhydro.com,

Jeff.Robinson@amwater.com, Rob

Duncan <rduncan@iwmconsult.com>,

Sam Waldo <waldo@amphenol.com>

To

Juan -

Attached are our comments to the minutes. The only significant changes are to clarify that the agreement was on the form of the proposal for additional investigation, not a commitment to perform the investigation. INAW agreed to take the proposal back to management for consideration.

Thanks,

Daniel Haddock, Engineering Mgr American Water - Central Region daniel.haddock@amwater.com W 317.885.2445 M 317.696.6980

Daniel F Haddock/INAWC /AWWSC

11/30/2007 12:14 PM Thomas.Juan@epamail.epa.gov@AWX

"Brad.Gentry" <bgentry@iwmconsult.com>,
Cygan.Gary@epamail.epa.gov,
Hamper.George@epamail.epa.gov,
jack@wittmanhydro.com,
Jeff.Robinson@amwater.com, Rob Duncan
<rduncan@iwmconsult.com>, Sam Waldo
<waldo@amphenol.com>

Subject Re: FPP/Amphenol and INAWC Meeting Summary - FinalLink

Juan - this is the first I've seen the summary. I would ask that you give me the opportunity to review before it becomes final.

Daniel Haddock, Engineering Mgr American Water - Central Region daniel.haddock@amwater.com W 317.885.2445 M 317.696.6980 To

CC



Daniel F. Haddock, P.E. Engineering Manager daniel.haddock@amwater.com

28 August 2007

Mr. Juan Thomas Waste Pesticides & Toxic Division Waste Management Branch USEPA Region 5 - Mailcode: DW-8J 77 West Jackson Blvd Chicago, IL 60604

Re:

Indiana American Water Company Webb Plant Drinking Water Contamination Proposed Monitoring Well Locations & Information Regarding Degradation of Highly Chlorinated Solvents

Dear Mr. Thomas:

We appreciate the opportunity to discuss with you and Mr. Cygan Indiana American Water Company's (INAWC) concerns regarding the monitoring workplan proposed by Amphenol. As follow up, attached please find supplemental information as requested during our July 27, 2007 conference call. The enclosed aerial photo of the Webb wellfield indicates the additional suggested monitoring well locations discussed in our call.

We are troubled by the stated opinion of Amphenol that the contamination found in the Webb wellfield can not have originated from the Amphenol site, based on the assertion that the parent compound TCE could not have fully degraded before arriving at the Webb wellfield. We have attached a letter from Dr. Flynn Picardal regarding the degradation of highly chlorinated solvents that documents that this assertion is not true.

Thank you for the opportunity to comment on the proposed workplan. We look forward to cooperating with all parties to resolve this contamination issue.

Respectfully,

Indiana American Water Company, Inc.

Daniel Haddock Engineering Manager

DH/mr

attachments:

Webb Wellfield - Proposed Monitoring Well Locations, August 2007, 1 page Letter from Flynn Picardal, PhD regarding degradation of highly chlorinated

solvents, dated August 9, 2007, 4 pages

American Water

555 East County Line Rd., Ste. 2 P.O. Box 570 Greenwood, IN 46142-0570 USA

T +1 317 885 2445 F +1 317 885 2431 I www.indiana-american.com



27 August 2007 Page 2

cc: Tara Callahan, Bryan Cave LLP

Mr. Samuel S. Waldo, Amphenol Corporation, EHS Director

Mr. Kevin Poad, Caterpillar remanufacturing (fka Franklin Power Products)

Bill Roberts, Caterpillar Remanufactyuring Plant Manager

Gerald Phillips, US EPA Region 5 RCRA Corrective Action Manager

Larry Johnson, US EPA Region 5 Attorney Mike Sickels, IDEM Corrective Action

Jim Sullivan, IDEM Groundwater Section Chief

Patrick Carroll, IDEM OWQ Drinking Water Branch Chief

Mr. John Bonsett, Johnson County Health Department Administrator

David Baker, INAWC President

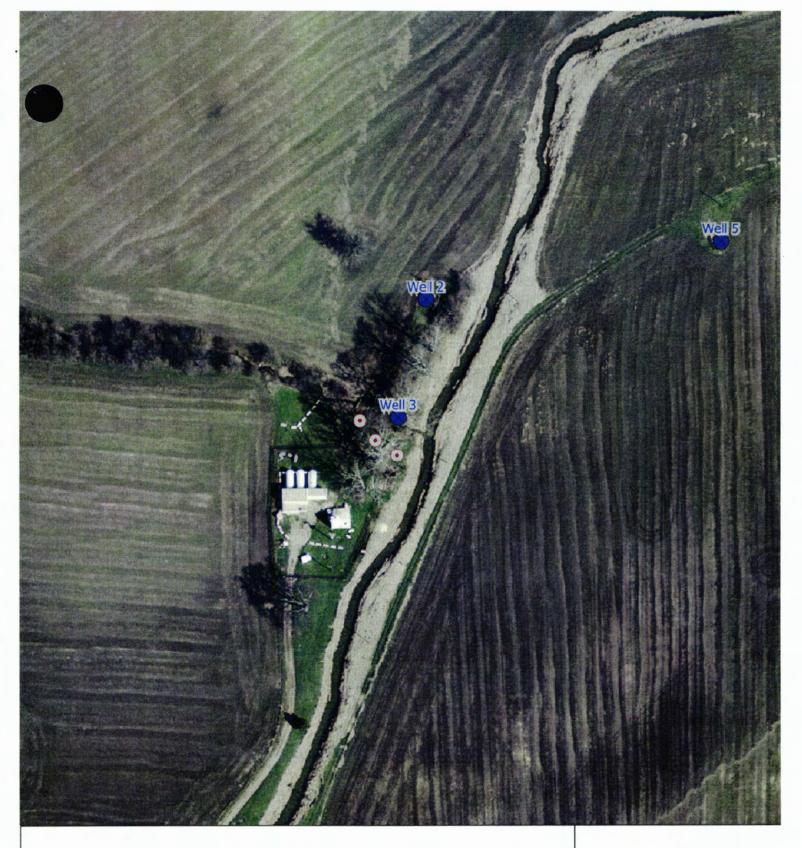
Cindy Hebenstreit, AWC Director of Environmental Management

Jeff Robinson, INAWC Water Quality Manager

American Water

555 East County Line Rd., Ste. 2C P.O. Box 570 Greenwood, IN 46142-0570 USA

T +1 317 885 2445 F +1 317 885 2431 I www.indiana-american.com



AWC Webb Wellfield

Monitoring Well (proposed)

Production Well



100 ft US



August 9, 2007

Jack Wittman WHPA, Inc. 320 West Eighth Street Showers Plaza, Suite 201 Bloomington, IN 47404-3700

Dear Dr. Wittman,

The degradation of highly chlorinated solvents has been studied for many years. Although fully chlorinated compounds such as carbon tetrachloride and perchloroethylene (PCE) resist aerobic transformations, they can be sequentially dechlorinated under anoxic conditions by a variety of microbial and/or geochemical processes. The rate of dechlorination is typically in the order, PCE > trichloroethene (TCE) > dichloroethene (DCE) > vinyl chloride (VC). The rate and extent of dechlorination at a particular site is difficult to predict *a priori* and will depend on factors such as (a) the type and activity of microorganisms present at the site, (b) aqueous chemical conditions, e.g., dissolved oxygen (DO) concentrations, (c) availability of microbial substrates, e.g., organic carbon or hydrogen, (d) the presence of inhibitory co-contaminants, and (e) the geochemical composition and reactivity of aquifer solids.

In an oxic aquifer containing little organic matter, for example, rates of PCE and TCE dechlorination might be minimal. In an anoxic system with suitable microbial populations, PCE and TCE dechlorination might be substantial and result in a mix of PCE, TCE, DCE, and VC. Under other conditions, dechlorination might be even more extensive and, given sufficient time, proceed to nonchlorinated products such as ethene. Below, I will describe several mechanisms by which PCE or TCE degradation might result in accumulation of DCE with little or no remaining parent compound and no detectable accumulation of VC.

As mentioned above, PCE is relatively stable under oxic conditions so I will assume that DO concentrations were low enough to allow reductive dechlorination of PCE and/or TCE to form DCE, VC, or ethene, an assumption that is supported by the available groundwater chemical data. The chemical analysis reports of well water (Webb Wells #2,3,and 5) from 2001 to 2007 all report that manganese and iron concentrations exceeded the Secondary MCL. These are presumably the soluble, reduced species of these metals, i.e., Mn²+ and Fe²+, which would be expected only if the water were anoxic. Reduced iron (Fe²+) is particularly sensitive to oxidation by oxygen and its presence is sometimes used to indicate the absence of DO.

The microbial dechlorination of PCE to *cis*-DCE (cDCE) via TCE has been demonstrated using microcosms, mixed cultures, and pure cultures, e.g., *Dehalospirillum multivorans* (15). Although the presence of this species or similar microorganisms capable of dechlorinating PCE to cDCE is speculative, it is interesting to note that the primary DCE isomer present is cDCE rather than the *trans* isomer. Other bacteria, e.g., *Dehalococcoides ethenogenes* are able to dechlorinate PCE, DCE, or VC completely to ethene (5, 13, 14). The conversion of PCE, TCE, and cDCE to ethene after addition of such bacteria has been demonstrated in a pilot field study (12). In addition, significant anaerobic conversion of DCE and VC to CO₂ has been observed in microcosms containing sediments maintained under either methane-producing or iron-reducing conditions (1). In principle, therefore, anaerobic microbial processes alone could be sufficient to completely transform all PCE and TCE to ethene or other non-chlorinated products.

There are other transformation mechanisms for chloroethene degradation that do

not depend on complete microbial dechlorination to ethene by specialized bacteria such as Dehalococcoides ethenogenes. As mentioned previously, the rates and extent of PCE and TCE dechlorination are greater than those for DCE and VC. This can result in accumulation of DCE and VC even if time is sufficient to allow complete exhaustion of PCE and TCE. Since temporal and spatial physical or chemical heterogeneities are usually present in aquifers, such changing conditions can sometimes allow moving groundwater to periodically encounter oxic conditions in an otherwise anoxic aguifer system. Of the series of chlorinated ethenes being discussed, VC is most readily degraded under aerobic conditions and can even serve as a sole carbon and energy source for microbial growth (4). Aerobic bacterial cultures isolated from a chloroethene-contaminated sediment have also been shown to degrade VC to below detection limits, even when DO concentrations were below 2 mg/L (16). The ability to obtain good VC removal at reduced oxygen concentrations may be an important factor since many aquifers contain low DO. If has also been demonstrated that cDCE can be used as a growth substrate by aerobic bacteria (3, 8). One can therefore visualize a process involving PCE/TCE dechlorination to DCE/VC under anoxic conditions followed by aerobic degradation of VC and DCE at time periods or locations where oxygen intrusion occurred. If oxygen intrusion was transient or limited in spatial extent, one would expect that VC would be consumed prior to DCE since it is generally biodegraded aerobically more rapidly or by more bacteria than DCE. Such a scenario is quite realistic and would provide the end product mix observed, i.e., the presence of DCE isomers but absence of both VC and the presumed parent compounds. PCE or TCE.

In addition to the microbial transformations described above, there are degradation mechanisms that involve chemical interaction with the aguifer solids. Both PCE and TCE can be transformed by iron sulfides forming acetylene as the major reaction product and VC or cDCE as minor reaction products (2). Other studies have shown that reduced iron minerals possibly present in aquifers such as green rusts, magnetite, and pyrite are able to chemically degrade PCE, TCE, cDCE, and VC to non-chlorinated products, primarily acetylene (9, 10). When considering long-term transformations of chlorinated ethenes, one must then consider geochemical transformation mechanisms along with the microbial transformation pathways. In an actual aquifer, it is likely that both microbiological and geochemical transformations are acting in concert to degrade PCE and TCE. Indeed a treatment process has been proposed to stimulate the microbial formation of iron sulfides that would in turn geochemically transform TCE (7). The predominant degradation pathways in a particular aquifer may also vary with time and location due to both heterogeneities in mineralogy and microbial communities and changing environmental parameters. Although there has been some research done that attempted to identify an original pollutant or determine predominant degradation pathways via the use of carbon stable isotopes (6, 11), the data provided in the current case is insufficient to unequivocally determine the original source compound or the pathways leading to accumulation of DCE. However, it is clear that there are a number of mechanisms that could lead to the presence of PCE- or TCE-derived DCE with the absence of both VC and the parent compounds.

Without additional information, I believe a reasonable scenario could be summarized as follows:

1) PCE or TCE (the parent compounds) are eliminated via a combination of anaerobic microbial and geochemical processes to form DCE, VC, and non-chlorinated products, e.g., ethene, acetylene, or CO₂.

2) The VC and DCE are subsequently degraded via microbial processes during transient aerobic periods caused by oxygen intrusion. Since the VC is more rapidly degraded under these conditions, the primary end product is DCE (both isomers with cDCE being predominant). Please let me know if you have any questions or if I can be of further assistance.

Regards,

Flynn Picardal, Ph.D. Associate Professor School of Public and Environmental Affairs Indiana University Bloomington, IN 47405

picardal@indiana.edu

References

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- 2. **Butler, E. C., and K. F. Hayes.** 1999. Kinetics of the transformation of trichloroethylene and tetrachloroethylene by iron sulfide. Environmental Science & Technology **33:**2021-2027.
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 Biodegradation of cis-dichloroethene as the sole carbon source by a beta-proteobacterium. Applied and Environmental Microbiology 68:2726-2730.
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July 27, 2007

Mr. Juan Thomas Waste Pesticides & Toxic Division Waste Management Branch USEPA Region 5 - Mailcode: DW-8J 77 West Jackson Blvd Chicago, IL 60604

Dear Mr. Thomas:

Please find attached our comments to the proposed IWM Supplemental Site Assessment Work Plan-Former Amphenol Facility. The IWM proposed Work Plan is broken into two phases of effort, with results of the first phase used to determine if the second phase of effort is warranted. It is our opinion that while the work proposed in the first phase is worthwhile, in the end, it will generate little additional information that is not already available in previous studies, and it will not address all the potential contaminant pathways to the public supply wells.

The occurrence of the same contaminants (and byproducts) at both locations, and a wellhead protection area delineation that places the Amphenol site in the 10 year time-of-travel capture zone should be sufficient information to perform a more detailed analysis.

We believe additional monitoring wells should be installed to expand the study area beyond the Amphenol site in the first phase of study. We propose, as a starting point, the sampling and characterization of soils in the outwash near Hurricane Creek, and the collection of groundwater samples located in a radial pattern on the south side of the Webb Well #3.

Sincerely, Indiana American Water Company

Jeff Robinson

Water Quality Manager Tel: 317-885-2409

> Indiana American Water 555 E. County Line Rd Greenwood, IN 4614. T 317-885-2400 F 317-885-2431



July 27, 2001

Mr. Thomas Manning
U.S. Environmental Protection Agency
Region 5, DW-8J
77 W. Jackson Boulevard
Chicago, Illinois 60604

Reference: EPA Contract No. 68-W-99-017; EPA Work Assignment No. R05704; Multi-Site

Technical Document Reviews; Franklin Power Products Inc. and Amphenol Corporation; Franklin, Indiana; EPA ID No. IND044587848; Review of Interim Corrective Measures - Groundwater Recovery and Treatment System Semi-

Annual Post Closure Monitoring Report; Task 03 Deliverable

Dear Mr. Manning:

Please find enclosed TechLaw's review comments on the above-referenced document and additional work as outlined in the Technical Direction Memorandum (TDM) dated June 8, 2001 (received on June 25, 2001) for Franklin Power Products Inc. and Amphenol Corporation. For your convenience, the main body (i.e., text) of this deliverable was E-mailed directly to you and Mr. Juan Thomas in WordPerfect for Windows format. In addition, several graphs, tables, and figures were developed and are also provided with this deliverable. While the included figures are hand modified and are not available electronically, electronic copies of the graphs and tables can be provided if requested.

Please feel free to contact me at (312) 345-8938 if you have any questions or concerns.

Sincerely,

John Koehnen TechLaw Regional Manager

cc: F. Norling, EPA Region 5 RPO, w/out attachment

J. Thomas, EPA Region 5 Chicago Central Files B. Jordan/Central Files

M. Welly

REVIEW OF INTERIM CORRECTIVE MEASURES GROUNDWATER RECOVERY AND TREATMENT SYSTEM SEMI-ANNUAL POST CLOSURE MONITORING REPORT

FRANKLIN POWER PRODUCTS INC. AND AMPHENOL CORPORATION FRANKLIN, INDIANA EPA ID No. IND044587848

Submitted to:

Mr. Thomas Manning U.S. Environmental Protection Agency Region 5, DW-8J 77 W. Jackson Boulevard Chicago, Illinois 60604

Submitted by:

TechLaw, Inc. 20 North Wacker Drive **Suite 1260** Chicago, Illinois 60606

EPA Work Assignment:

R05704

Contract No.:

68-W-99-017

EPA WAM:

Thomas Manning

Telephone Number:

(312) 886-7954

EPA TA:

Juan Thomas

Telephone Number:

(312) 886-6010

TechLaw WAM:

Mike DeRosa

Telephone Number:

(312) 345-8915

REVIEW OF INTERIM CORRECTIVE MEASURES GROUNDWATER RECOVERY AND TREATMENT SYSTEM SEMI-ANNUAL POST CLOSURE MONITORING REPORT

FRANKLIN POWER PRODUCTS INC. AND AMPHENOL CORPORATION FRANKLIN, INDIANA EPA ID No. IND044587848

Introduction

A Technical Direction Memorandum (TDM) was issued to TechLaw to review the Interim Corrective Measures - Groundwater Recovery and Treatment System Semi-Annual Post Closure Monitoring Report (the Report), dated March 26, 2001. In addition to reviewing the Report, various additional tasks were requested under the "Specific Immediate Needs" section of the TDM. This report is provided to summarize the items specified under this TDM.

For this report, applicable portions of the following documents were reviewed:

- Interim Corrective Measures Groundwater Recovery and Treatment System, Post Closure Monitoring Work Plan, Franklin Power Products Site, Franklin, Indiana, dated March 2000;
- 2) Treatability Study: Air Sparging/Soil Vapor Extraction System, Amphenol Franklin Power Products, Franklin, Indiana, dated May 1999;
- 3) Technical Review, Treatability Study: Air Sparging/Soil Vapor Extraction System, Amphenol Franklin Power Products, Franklin, Indiana (no date);
- 4) Franklin Power Products, Inc./Amphenol Franklin, Indiana, Administrative Order on Consent for Corrective Measures Implementation, IND044567848, dated November 30, 1998;
- 5) Special Report, Protecting Ground Water at the Indiana American Water Company's Webb Well Field near Franklin, Indiana, dated June 30, 1997;
- Franklin Power Products/Amphenol Facility, Corrective Action Statement of Basis, IND004587848, dated April 2, 1997;
- 7) On-Site Recovery System Evaluation Workplan for the Former Amphenol Facility, Franklin, Indiana, dated November 1996;

- 8) Report of Shallow Ground Water Sampling Along Hurricane Creek, Former Amphenol Facility, Franklin, Indiana, dated November 1996;
- 9) Laboratory Evaluation (By Mail) of Southwest Laboratory of Oklahoma, Inc. (SWOK), Broken Arrow, OK for Amphenol Facility, Franklin, IN RCRA Facility Investigation (RFI), dated November 8, 1991; and
- 10) Quality Assurance Project Plan for RCRA Facility/Corrective Measures Study (RFI/CMS) at the Former Amphenol Facility, dated May 25, 1991.
- 11) Groundwater Recovery and Treatment System Upgrade Report, dated May 6, 1999.

The following elements are included in this report:

- Review the Report and evaluate groundwater flow direction, elevations and conduct appropriate analyses to determine both current and future on-site groundwater conditions to that of the Webb Well Field.
- Compare and contrast current groundwater flow conditions relative to the past conditions and discuss any hydraulic flow patterns and or trends.
- 3) In addition to a narrative discussion, provide illustrations of groundwater flow patterns, contaminant concentration changes, elevation data, etc. in the form of graphs, charts, etc.
- 4) Discuss current groundwater conditions relative to the applicable performance standards as outlined in the Administrative Order on Consent, Corrective Measures Implementation Plan and Interim Final Decision documents and CMI Groundwater Treatment System Monitoring Plan.
- 5) Provide a discussion of relevant QA/QC issues, i.e., sampling collection methodologies, quantitative limits, data qualifiers and other QAPP issues relative to determining if data collection and evaluation strategies are consistent with approved QAPP procedures.
- 6) Provide some analysis of the operation and maintenance (O&M) of the existing on-site recovery system discussing influent rates with an analysis of mass of contaminants removed and removal efficiencies.
- 7) Discuss and analyze on-site groundwater analysis to that of off-site groundwater analysis.
- 8) Provide a discussion and analysis of the overall effectiveness of the groundwater recovery and treatment system.

9) Evaluate and compare current on-site and off-site groundwater contaminant levels to those of appropriate Risk-Based Screening Levels and discuss reduction/increase trends in the data.

It should be noted that specific Risk-Based Screening Levels, as specified in "Task 9" listed above, were not detailed in any of the documents reviewed. The Administrative Order on Consent specifies in Attachment A, "Corrective Measures Implementation Program Scope of Work, Franklin Power Products, Inc./Amphenol" that "Unless sufficient land use information pursuant to OSWER directive 9355.7-04 is provided which supports a future industrial/commercial land use projection, performance standards for the AS/SVE and the groundwater recovery system shall correspond to cleanup standards based on a residential land use scenario. Secondary performance standards based on asymptotic contaminant reduction, and alternate system operation and shutdown keyed to contaminant levels, may be included." For the evaluation of Risk-Based Screening Levels, TechLaw compared groundwater data to the Indiana Drinking Water Standards as specified in the Indiana Administrative Code (327 IAC 8-2-5.4) as well as U.S. EPA Region 9 Tap Water Preliminary Remediation Goals (PRGs).

Evaluation of the Extraction and Treatment System at the Franklin Power Products Site

For the assessment of the extraction and treatment system at the Franklin Power Products site, the following evaluations were performed:

- a) groundwater elevation hydrographs were prepared and evaluated;
- b) groundwater capture zones were estimated and evaluated;
- c) VOC isoconcentration maps were prepared and evaluated;
- d) groundwater quality results were compared to performance standards;
- e) VOC concentration trends were evaluated;
- on-site hydrogeological conditions were compared to the Webb Well Field data;
 and,
- g) the extraction and treatment system efficiency was evaluated.

A discussion of each item is presented below.

Groundwater Elevation Hydrographs:

Four extraction wells operate at the site. Wells RW-1 through RW-3 have been operating since February 1995. RW-4 has been operating since February 1999. Pre-pumping water levels were available from 1992 and 1993. Groundwater elevation hydrographs for all monitoring wells are shown in Figure 1. This figure demonstrates that groundwater elevations at the site are very uniform and follow the same, most-likely precipitation-induced pattern. It would be helpful for future evaluations to obtain precipitation data for inclusion into, or comparison against, the hydrographs.

Figure 2 shows hydrographs for the extraction wells along with the hydrographs for the three monitoring wells furthest away from the extraction wells (between approximately 300 and 650 feet away). It is not expected that groundwater flow at these wells is impacted by the extraction system. As noted in the figure, the pre-pumping water elevations (1992-1993) were lower than the post-pumping elevations (post 1995). It appears that wells MW-9, MW-20, and MW-26 do not fall within the radius of influence of the extraction wells. Assuming that the hydrographs for MW-9, MW-20, and MW-26 are not impacted by the extraction system, these hydrographs form the "baseline" water elevation pattern that represents natural water elevation fluctuations. These hydrographs are most likely influenced by precipitation and recharge only. As can also be seen in the figure, water elevations at the extraction wells appear to follow a seasonal pattern, indicating that the pumps do not keep a constant drawdown in the wells throughout the year.

Figure 3 shows the hydrograph for well RW-1 along with hydrographs for near-by monitoring wells MW-24 and MW-30, and off-site well IT-3. As shown in the figure, pre- and post-pumping water elevations for the three monitoring wells follow the same pattern and do not appear to be influenced by groundwater extraction at RW-1. The hydrograph follows the pattern of the baseline hydrograph mentioned above. It is also apparent that water elevations at RW-1 follow a most likely rain-induced pattern. Although MW-30 is located within a few feet of RW-1, the MW-30 hydrograph follows more closely the patterns of the nearest upgradient and downgradient monitoring wells than a pattern which shows extraction well influence (i.e., the water levels should be lower than without pumping). The hydrographs do not support the assumption that near-by monitoring wells fall within the radius of influence of RW-1.

Similarly, Figure 4 shows the hydrograph for well RW-2 along with hydrographs for near-by monitoring well MW-12 and off-site well IT-2. As is shown in the figure, pre- and post-pumping water elevations for the two monitoring wells are almost identical and do not appear to be influenced by groundwater extraction at RW-2. It is also apparent that water elevations at RW-2 follow a most likely rain-induced pattern. Although MW-12 is located within approximately 15 feet of RW-2, MW-12 does not appear to fall within the radius of influence of RW-2.

Along the same lines, Figure 5 shows the hydrograph for well RW-3 along with hydrographs for near-by monitoring wells MW-3, MW-21, and MW-22, and Figure 6 shows the hydrograph for RW-4 along with hydrographs for nearby monitoring wells MW-27, MW-28, and MW-29. Both figures support the conclusions reached for the other extraction wells. Nearby monitoring wells do not appear to fall within the radius of influence of the extractions wells. In addition, water elevations at the extraction wells follow a most likely rain-induced pattern.

Groundwater Capture Zones:

Since based on the hydrograph evaluation, the extraction wells have very limited capture zones, the associated groundwater elevation contour maps should reflect these findings. The groundwater contour maps presented in the Report show that on-site and off-site groundwater is captured. However, these figures do not take into account the findings discussed in Section 1.1.

Figures 7 through 9 show groundwater elevation contour maps for March 25, 1992 (pre-pumping data), April 12, 1996 (first water elevation data after start-up), and September 29, 2000 (most recent water elevation data for which VOC concentration data are available) using the hydrograph findings. As shown on the figures, the site-wide groundwater gradient was smaller in 1992 (approximately 0.0033 feet/foot) than in 1996 (approximately 0.0065 feet/foot) and 2000 (approximately 0.0079 feet/foot). It appears unlikely that this increase in groundwater gradient can be attributed to the operation of the extraction system. It is recommended that the pattern of the regional groundwater gradient be compared to the site gradients to evaluate the causes for the increase in groundwater gradients at the site.

Figures 8 and 9 also illustrate the estimated capture zones for the extraction wells. As shown in the figures, the estimated capture zones are not extensive. Well construction details for the extraction and monitoring wells should be reviewed to determine whether all wells are screened in the same aquifer. In addition, site-specific hydrogeologic information should be reviewed to determine why the radius of influence around the extraction wells does not impact groundwater elevations in near-by monitoring wells.

VOC Isoconcentration Maps and Plume Capture:

In order to evaluate whether the extraction wells capture the VOC plume emanating from the site, VOC isoconcentration maps were prepared using the latest data (September 2000).

Figures 10 through 14 show isoconcentration maps for trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,1-dichloroethane (1,1-DCA), respectively. Figure 10 shows the TCE plume emanating from the TCE/TCA Above-Ground Storage Tank (AGST) location and migrating in a southeasterly direction. The highest concentrations were detected at RW-2 and MW-12. The extent of the TCE plume is not defined, except in the northwestern portion of the plume (no TCE was detected at RW-4 and MW-29). Comparing the estimated extent of the TCE plume which encompasses all other plumes to the capture zones depicted in Figure 9, it is evident that the current extractions system is not capturing on-site and off-site contamination.

Figure 11 shows the 1,1,1-TCA plume emanating from the TCE/TCA AGST location and migrating in a southeastern direction. The highest concentrations were detected at RW-2 and MW-12. The extent of the 1,1,1-TCA plume is not defined, except in the northwestern portion of the plume (no 1,1,1-TCA was detected at RW-4 and MW-29) and the southern portion of the plume (no 1,1,1-TCA was detected at IT-2). The non-detect concentration reported for RW-1 was not used for preparing the isoconcentration map since during all previous sampling events, 1,1,1-TCA concentrations at this well were about 100 ug/l.

Figure 12 shows the estimated extent of the PCE plume. The highest concentrations were detected at MW-22 (3,300 ug/l) and RW-2 (7,400 ug/l). The PCE plume is bound in the southeastern portion by non-detect concentrations at wells RW-1, MW-30, IT-2, and IT-3.

However, the extent of the PCE plume in all other directions has not been determined. The solubility of PCE in water is 237 mg/l. As a rule of thumb, if dissolved groundwater concentrations reach one percent of the VOC solubility in water, then the presence of DNAPL should be investigated. Since PCE concentrations in excess of 2,370 ug/l were detected in MW-22 and RW-2, the presence of a PCE DNAPL source should be investigated.

Figure 13 shows that the downgradient extent of cis-1,2-DCE has not been determined. The cis-1,2-DCE concentration detected at IT-2 exceeded the Indiana Drinking Water Standard of 70 ug/l (see Table 1 below).

Figure 14 shows that the upgradient and downgradient extent of the 1,1-DCA plume have not been defined. 1,1-DCA was detected in off-site well IT-2 at 16 ug/l.

Since the aerial and vertical extent of the plumes have not been defined, additional data should be collected to determine the extent of the VOC plumes. Without these data, the effectiveness of the recovery system cannot be fully evaluated and system optimization (e.g., the installation of additional extraction wells) cannot be performed.

Evaluation of VOC Concentrations with Respect to Performance Standards:

Table 1 lists the performance standards for the extraction system and maximum concentrations detected at the site.

Table 1: Indiana Drinking Water Standards for the VOCs of concern at the site.

Compound	Indiana Drinking Water Standard [ug/l]	Region 9 Tap Water PRGs [ug/l]	Maximum Concentration [ug/l] Detected in September 2000	Well in which the Maximum Concentration was detected	
TCE	CE 5		880	MW-12	
1,1,1-TCA	200	540	430	RW-2	
PCE	5	1.1	7,400	RW-2	
Cis-1,2-DCE	70	61	87	IT-2	
1,1-DCA	Not Established	810	22	RW-2	

The current data show that on- and off-site groundwater contains TCE and PCE concentrations in excess of the extraction system performance standards (i.e., Indiana Drinking Water Standards).

In addition, on-site groundwater contains 1,1,1-TCA concentrations in excess of the extraction system performance standards. Furthermore, off-site groundwater contains cis-1,2-DCE concentrations in excess of the extraction system performance standards. No performance standards were established for 1,1-DCA. 1,1-DCA was detected in on- and off-site wells. It should be noted that the extent of the VOC plume on- and off-site has not been determined and that additional exceedances of performance standards are possible.

VOC Concentration Trends:

Figures 15 through 18 show VOC concentration trends over time for the extraction wells. Concentration trends could not be evaluated for the monitoring wells since no data were available. As shown in the figures, TCE and PCE are present at the highest concentrations and concentration graphs for TCE and PCE are almost identical. The concentration graph for TCA closely matches those of TCE and PCE. The other VOCs are not present at sufficient concentrations to determine concentration trends. The figures show that VOC concentration trends in wells RW-1 through RW-3 have generally decreased since the startup of the groundwater recovery system. At RW-4, not enough data are available to draw conclusions regarding concentration trends. The figures also show the water elevations at the extraction wells. There does not seem to be a correlation between water elevation in the well and the concentration detected at the well. It is currently unclear what factors most influence the concentration trends at the extraction wells.

It is recommended that groundwater quality data be collected from the monitoring and extraction wells on a quarterly basis to better evaluate seasonal changes and concentration trends at the site. In addition, it is recommended that the on- and off-site VOC plume extent be determined. Subsequently, the location of additional extraction wells should be evaluated so that plume capture can be achieved.

Comparison of On-Site Data to the Webb Well Field Data:

The Webb Well Field is located approximately 1,500 feet east-northeast of the site. In order to evaluate the effect of contamination emanating from the site on the Webb Well Field, a geologic cross-section between the site and the well field should be prepared, and well construction details, (including well depth, screened interval, and well log) radius of influence calculations (horizontal and vertical) for the well field, and VOC data for the well field (indicating which analytical methods were used) for each sampling event, since the detection of cis-1,2-DCE, should be provided.

It appears that the wells in the Webb Well Field are pumping from a highly transmissive zone that allows pump rates of 2.5 million gallons per day. The wells at the site pump between 2.25 gpm and 14.9 gpm and it appears that the radius of influence around the on-site extraction wells is very limited, indicating very tight, less transmissive material. Therefore, it is assumed that the Webb Well Field is pumping from a different aquifer zone than the on-site wells. On the other

hand, the downgradient extent of the cis-1,2-DCE plume has not been determined. In addition, it is unclear whether contamination at the site has migrated to lower aquifer units as analytical data for D-zone wells (IT-1A, MW-23, and MW-25) have not been provided.

Groundwater contour maps (pre- and post-pumping) indicate a southeasterly flow direction at the site. However, Figures 8 through 13 in the document "Protecting Ground Water at the Indiana American Water Company's Webb Well Field near Franklin, Indiana", dated June 30, 1997, show that groundwater at the site is flowing in a northeasterly direction, if it is assumed that the site falls within the capture zone of the well field. Therefore, this northeasterly flow direction is not supported by on-site water elevation data.

It appears that contamination at the site could only have reached the Webb Well Field if this contamination has reached lower aquifer units which show a northeasterly groundwater flow direction. If available data are not sufficient to provide information regarding contamination and groundwater flow direction in lower units, additional monitoring wells and/or soil borings need to be installed to find the contamination in the lower units.

Extraction and Treatment System Efficiency:

This section evaluates the extraction and treatment system efficiency 1) based on the objectives of the recovery system, and 2) based on an evaluation of pump rates, total gallons of groundwater extracted, and VOC mass removal.

Evaluation Based on the Objectives of the Recovery System

The objectives of recovery system are:

- 1. Withdraw VOC-contaminated groundwater from the uppermost saturated unit and treat the water by air stripping to non-detect levels.
- 2. Depress the potentiometric surface of Unit B to elevations below the invert of the nearby storm sewer which at times intercepts VOC contaminated Unit B groundwater and conveys the water to Hurricane Creek.
- 3. Depress the local potentiometric surface of Unit B to the extent of the offsite portions of the groundwater so that the contaminant plume will cease or reverse flow.

Objective 1:

Based on the data provided in the Report, the effluent concentrations from the treatment system have been non-detect for the VOCs analyzed. Therefore, the current system is meeting the first objective.

Objective 2:

The storm sewer elevations for manholes MH 110 and MH 109 were used to estimate the sewer elevations at the site. Assuming a constant storm sewer slope of 0.0095 feet/foot (measured from the slope between MW 109 and MH 110) and assuming that the Franklin Power Products Site is located 1/4 mile away from Hurricane Creek and that manhole MH 109 is located 680 feet north of Hurricane Creek, the sewer line should be at an elevation of 721.53 feet msl at the southern property boundary and at 723.91 feet msl just south of the main building on the site.

Figure 24 shows the estimated high and low sewer elevations along with water table elevations from nearby wells MW-12, MW-22, RW-2 and RW-3 between 1992 and 2000. MW-22 and MW-12 appear to be the closest wells to the abandoned storm sewer line. Wells RW-2, RW-3, and MW-25 are closest to the existing storm sewer line. As can be seen in the figure, only water levels at MW-22 exceeded the estimated lowest sewer elevation four times in eight years. Therefore, it appears that the current system is generally meeting the second objective. However, it is recommended that actual storm sewer elevations be obtained to verify this conclusion.

Objective 3:

Based on previous discussions regarding capture zones, the current system does not meet the third objective.

Evaluation Based on Pump Rates, Total Gallons of Groundwater Extracted, and VOC Mass Removal

The Report states that the groundwater recovery from the extraction wells increased significantly after the May 15, 2000 redevelopment of the wells. This statement could not be evaluated since pump rates before May 24, 2000 were not available. Figure 19 shows the pump rates of the extraction wells between May 24 and October 25, 2000. As shown in the figure, extraction rates increased in all extraction wells in August 2000. The slightest increase was observed in RW-2, the largest increase was observed in RW-1. The current total system pump rates range between approximately 37 gpm and 39 gpm.

The Report (Page 2) states that 7,627,141 gallons of groundwater were recovered and treated between April 19 and October 26, 2000. The following table lists the cumulative flow readings for each well, the average pump rate, total VOC mass removed, and the average VOC concentration calculated from values between February 24, 1995 and September 1, 2000.

Table 2: Comparison of Groundwater Volume and Groundwater Mass Removed

Date	RW-1 5,138,903	RW-2 12,339,401	RW-3 12,525,089	RW-4 4,241,582	Total 34,266,201
Groundwater Volume [gal] Removed between 2/95 and 9/00					
Average Pump Rate [gpm] between 2/95 and 9/00	1.8	4.3	4.3	1.5	11.8
Total VOC Mass [lbs] Removed between 2/95 and 9/00	23.46	269.74	165.51	3.45	462.16
Average VOC Concentration [ug/l] between 2/95 and 9/00	547.9	2,947.3	1,728.5	103.5	1,331.8

Assumptions:

Between February 24, 1995 and September 1, 2000, 2,016 days have elapsed. From this, the average pump rates can be calculated. Total VOC mass was calculated by multiplying the concentration detected at a certain sampling event by the number of gallons removed between that sampling event and the previous sampling event. Average VOC concentrations were calculated using one-half the detection limit for each non-detect result.

Figures 20 through 23 show groundwater and VOC mass removal over time for RW-1 through RW-4. As can be seen from Table 2 and Figures 20 through 23, the best removal efficiencies are obtained from wells RW-2 and RW-3 because VOC concentrations in the groundwater are still very high. The figures show that an increase in groundwater extraction rate is proportional to an increase in mass removal at RW-2 and RW-3. Optimization of the system would include increasing pump rates to accelerate VOC groundwater cleanup at RW-2 and RW-3. For well RW-1, the relationship between volume of groundwater extracted and mass of VOCs removed is not quite so clear. It appears that the removal efficiency is not limited by groundwater pump rates, but by the VOC concentrations present at the well. This well is not located in the center of the VOC plume and, therefore, the removal efficiency of this well is not expected to be as good as for extraction wells located in the center of the plume. A clear relationship between volume of groundwater extracted and mass of VOCs removed cannot be observed for RW-4, either, since there are not enough data points available. It appears, however, that, as with RW-1, the removal efficiency at RW-4 is not limited by groundwater pump rates, but by the VOC concentrations present at this well.

Extraction and Treatment System Conclusions and Recommendations

To optimize the recovery system:

- a) additional extraction wells should be installed in areas that show higher transmissivity and where larger capture zones are expected;
- b) existing well construction details and well logs for all on- and off-site wells should be reviewed to determine whether the extraction and monitoring wells are screened in the same hydrogeologic units;
- c) the VOC plume extent should be defined;
- d) the presence of DNAPL should be investigated;
- e) VOC concentration data for lower aquifer units should be reviewed;
- f) groundwater flow directions in the lower aquifer units should be determined;
- g) geologic cross-sections should be prepared to evaluate the interconnectedness between on-site and off-site aquifer units;
- h) precipitation data should be obtained to better evaluate the water elevation hydrographs; and,
- i) the elevation of the storm sewer line at the site should be determined.

QA/QC Procedures:

A cursory review of the revised quality assurance project plan (QAPP), dated May 25, 1991, was performed. During this review, it was noted that a number changes have been made to the referenced documents and analytical methods. The following is a list of QAPP methods and documents where changes have been made.

QAPP Table 1 states that soils and sediments collected for VOCs will be placed in "2-40 ml widemouth vials w/Teflon septa" and cooled to 4°C. However, this is no longer an acceptable procedure for collecting soil or dry sediment samples. The currently approved procedure for collecting VOC soil/dry sediment samples is either SW-846 Method 5021 or Method 5035. Therefore, it should be ensured that the currently approved VOC sampling procedures will be used.

- QAPP Section 7.0 and Appendix F list the methods to be used to analyze samples. These sections state that VOCs will be analyzed by Method 8240. However, Method 8240 is no longer an approved method to analyze VOCs. Therefore, it should be ensured that VOC samples will be analyzed by the currently approved SW-846 Method 8260B. Furthermore, these sections indicate that pesticide/PCB samples will be analyzed by Method 8080. However, it is no longer acceptable to analyze pesticides and PCBs together and Method 8080 is no longer approved. Therefore, it should be ensured that organochlorine pesticides will be analyzed by SW-846 Method 8081A and PCBs will be analyzed by Method 8082. In addition, the currently approved versions of the methods for semivolatile organic compounds (SVOCs), dioxins, metals, mercury, organophosphorus pesticides and herbicides should also be used. These methods are listed in the QAPP as 8270, 8280, 200.7/6010, 7470, 8140 and 8150. However, the current SW-846 Methods are 8270C, 8280A, 6010B, 7470A/7471A, 8141A and 8151A. Finally, the QAPP states that arsenic, lead, selenium and thallium will be analyzed by graphite furnace. While this is an accepted method, it should be ensured that these analytes will actually be analyzed by the graphite furnace and not by trace ICP, which can provide comparable detection limits.
- The sample preparation and cleanup methods listed in QAPP Section 7.0 are also no longer current. The listed versus approved methods are:

<u>Listed Method</u>	Approved Method
3510	3510C
3520	3520C
5030	5030B
3010	3010A
3020	3020A
3050	3050B
3640	3640A
3620	3620B
3660	3660B

QAPP Section 8.3 references data validation guidelines which are no longer in use. The current versions of the Contract Laboratory Program (CLP) National Function Guidelines for Data Review (Functional Guidelines) are February 1994 (inorganic document) and October 1999 (organic document). Therefore, it should be ensured that these versions of the Functional Guidelines are used as guidance documents when validating the data. Additionally, it should be noted that the Functional Guidelines are only directly applicable to CLP methodologies. These guidelines require modification when used with SW-846 Methods. Therefore, it should be ensured that the acceptance criteria outlined in the QAPP and in SW-846 will be used when validating the data for this project.

2. Comments on the Interim Corrective Measures - Groundwater Recovery and Treatment System Semi-Annual Post Closure Monitoring Report, Franklin Power Products Site, Franklin, Indiana, dated March 26, 2001

General Comment:

1. It is unclear why water elevation measurements (September 29 and October 10, 2000) and monitoring well samples (September 29, 2000) were not collected on the same day that treatment system influent and effluent sampling (May 24, August 4, and September 1, 2000) and extraction well sampling (September 1, 2000) was performed. To provide a comprehensive overview of concentrations and water elevations in all wells at the site and influent data from the extraction system as a snap shot in time, all water quality and water elevation samples should be collected on the same day.

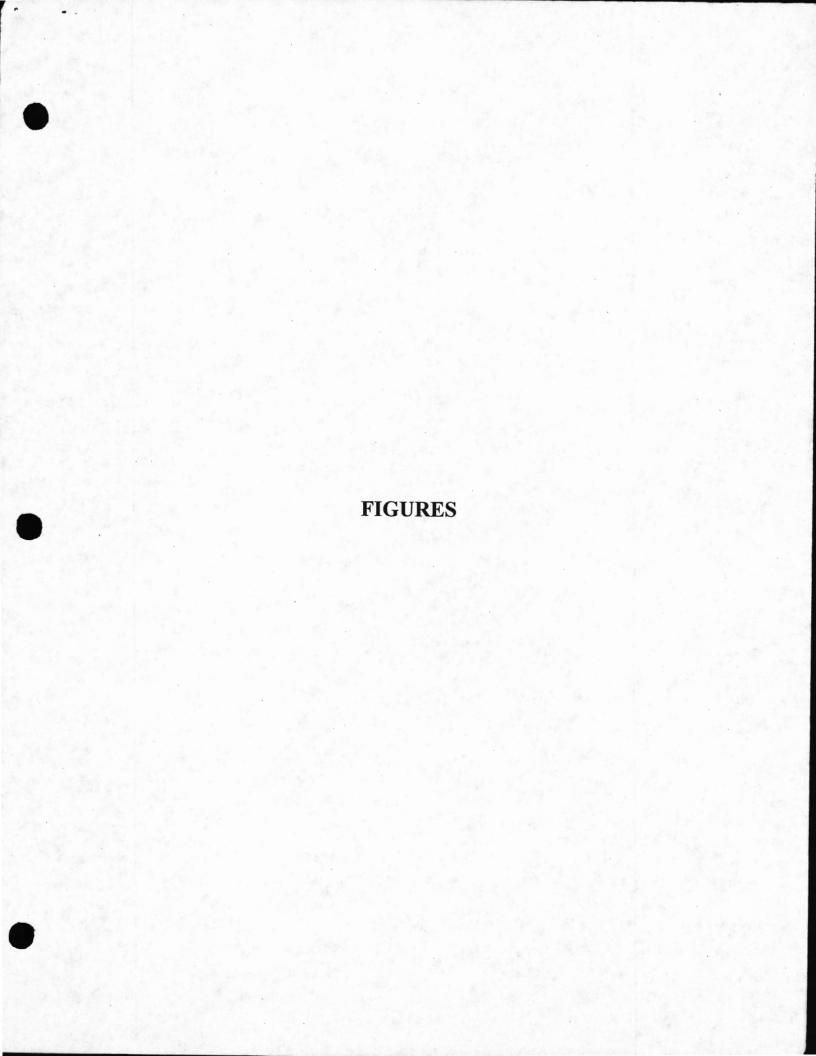
Specific Comments:

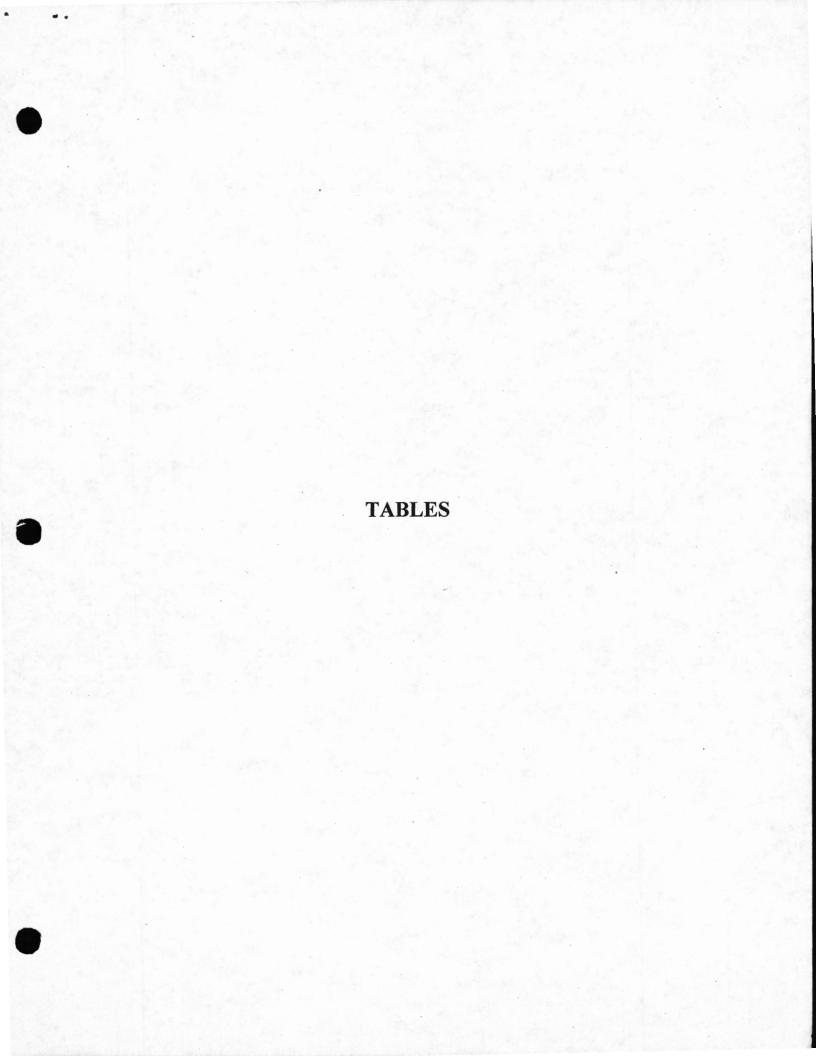
- 1. It appears that between the bottom of Page 1 and the top of Page 2, text is missing. Please add the missing text for clarity.
- 2. The Report (Page 2) states that 1,1-DCA, PCE, 1,1,1-TCA and 1,2,3-trichlorobenzene (1,2,3-TCB) were detected in samples collected from the extraction wells. 1,2,3-TCB was detected for the first time at the site (at RW-1). It should be noted that TCE was also detected in the extraction wells. The Report should be updated to include TCE as one of the contaminants detected in the recovery wells.
- 3. The Report (Page 3) states that VOCs were analyzed using U.S. EPA Method 8021. However, the laboratory data sheets included in the Report list U.S. EPA Method 8260B as the analysis method used for groundwater samples. The Report should be updated to specify the correct method used for VOC analysis.
- 4. The Report does not state whether any deviations from the Sampling and Analysis Plan (SAP) and the Quality Assurance Project Plan (QAPP) occurred during the semi-annual reporting period. A section should be provided in the Report discussing any deviations from the SAP or QAPP.
- 5. On Page 4, the Report states that the highest VOC concentrations were detected during the November 27, 2000 sampling event. However, the reporting period discussed in the Report only extends to October 26, 2000. The correct sampling date (September 29, 2000) should be listed in the Report.
- 6. The Report (Page 4) only discusses VOC concentrations detected at the monitoring wells. Since the extraction wells were also sampled in September (on September 1, 2000), VOC concentrations in these wells should also be discussed and compared to the monitoring

well results. This comparison will show that the highest total VOC concentrations were detected at MW-22 (3,571 ug/l) and RW-2 (2,712 ug/l), followed by VOC concentrations at MW-12 (2,041 ug/l) and RW-3 (1,555 ug/l). The Report should be updated to include a discussion of VOC concentrations in the recovery wells.

- 7. The Report (Page 4) states that off-site wells IT-2 and IT-3 are within the hydraulic control of the recovery system and that concentrations of VOCs are being effectively reduced. However, based on the discussions provided above, these off-site and all on-site wells are not located within the hydraulic control of the extraction wells. In addition, since no historical concentration data are provided in the Report, the statement that VOC concentrations in the off-site wells have decreased since 1992 could not be verified. It appears likely that VOC concentration reductions at the site are occurring because of downgradient plume migration. Additional data should be provided in the Report to substantiate the statement that off-site wells IT-2 and IT-3 are within hydraulic control of the recovery system and that concentrations of VOCs are being effectively reduced.
- 8. The Site Inspection Forms in Attachment D do not show turbidity measurements for the collected samples. However, for example, on September 29, 2000, qualitative comments regarding turbidity were made for all wells: at well IT-2, IT-3, MW-20, MW-22, MW-28, MW-29, the purge water was silty or slightly silty. Purge water was slightly cloudy at MW-12 and very silty at MW-30. Since the groundwater appears to be turbid, it is recommended that turbidity measurements using a turbidity meter be made.

In addition, a sulfur odor was noted for purge water collected at IT-2. Please explain what could cause the sulfur odor in that well.





Juan Thomas DE-9J EPA Region 5 77 West Jackson Chicago, IL 60604

Subject: <u>DEED RESTRICTION RELEASE</u>

Discussions with Mr. Sam Waldo of Amphenol, he has advised I send you a copy of the Surveyors Report for the carved out property I am trying to purchase from Delco Remy. The land on the survey is in compliance with E.P.A. guidelines, and no remediation required. Delco Remy is the current owner of the property. Delco purchased the business from Franklin Power Products back in 1986, with Amphenol retaining the environmental clean-up requirements.

My legal council has advised that he can place a deed restriction on the property restricting use of wells and no personal residence are to be built on the property. Our placing of the restriction vs the E.P.A.'s restriction permits and easier access to Banks being willing to provide financing for the property by myself or any future owners.

I need your help in removal of the deed restriction by the E.P.A. I certainly, understand and support the position of the deed restriction on the balance of the property that has had prior contamination and is in the process of clean up by Amphenol.

I have maintained a good working relationship with Sam Waldo and Amphenol during their clean-up program. I understand the direction Amphenol is taking to continue the remediation until such time the soil is within E.P.A. requirements.

Your assistance will be greatly appreciated.

Sincerely,

Mike Jarvis
Mike Jarvis

October 20, 1999



Mr. Walter Francis
United States Environmental Protection Agency Region 5
RCRA Enforcement and Compliance Assurance Branch, DRE-9J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Franklin Power Products, Inc./Amphenol Franklin, Indiana Administrative Order on Consent USEPA I.D.# IND 044 587 848 Response to Comments

File: 074.40064

Dear Mr. Francis:

This letter responds to comments prepared by the United States Environmental Protection Agency (USEPA) pertaining to compliance actions completed at the Franklin Power Products Site (the Site) located in Franklin, Indiana, as outlined in Section II of the Administrative Order on Consent (the Order) I.D.# IND 044 587 848. These comments, transmitted by USEPA to Amphenol (the Respondent) on September 23, 1999, relate to following:

- The performance evaluation reports for the upgraded groundwater recovery system and AS/SVE pilot test program submitted (May 1999) in accordance with Tasks II & III of Attachment A of the Order; and
- The results of the Indiana-American Webb Well Field investigation described in Task IV of Attachment A.

The following responses have been prepared to reflect specific actions agreed upon during the October 6, 1999, conference call between USEPA, the USEPA Contractor (TECHLAW), Amphenol, and SECOR International.

Groundwater Recovery and Treatment System - Upgrade Report

As discussed in the Groundwater Recovery and Treatment System - Upgrade Report (May 1999), electrical submersible pumps where installed in the three existing on-site recovery wells (RW-1, RW-2, and RW-3), and a fourth on-site recovery well was installed along the south central property boundary. The purpose of the system upgrades were to:

- 1) Increase the overall quantity of groundwater and VOCs recovered by the system; and
- 2) Lower the water table to a level below the invert of a 72-inch diameter sewer which crosses the site, as historical data suggest that the bedding material surrounding around the storm sewer may act as a conduit for the migration of site VOCs to off-site areas.

Mr. Walter Francis October 20, 1999 Page 2 of 3

To meet the above objectives, pneumatic pumps in existing recovery wells, RW-1, RW-2, and RW-3, were replaced with Grundfos Model JS07-03 JetSub electrical submersible pumps. In addition, a new recovery well RW-4 was installed along the southwest property boundary. Recovery well RW-4 was completed at a depth of 28 feet below ground surface (bgs), and fitted with a Grundfos Model JS10-03 submersible pump. Currently, the flow rates of recovery wells RW-1 through RW-4 are 2.75 gallons per minute (gpm), 7.4 gpm, 8.1 gpm, and 7.7 gpm, respectively (Handex, September 1999). Drawdown in each recovery well is controlled using high low electrical switches. In addition, automatic shutoff switches are installed between the pressure blower and the submersible pumps. Automatic shutoffs are also tied into the low and high pressure levels and high float level in the water sump of the air stripper. The purpose of the shutoff switches is to reduce the possibility of accidental groundwater overflow discharge from the system in the event of air stripper shutdown.

Review of recent site groundwater elevation data suggest that, although the overall yield of the recovery system has nearly doubled since completion of the upgrades, the elevation of the surrounding water table has not significantly decreased. Current groundwater elevation data indicate the groundwater table is approximately one foot above the invert of the storm sewer, consistent with historical data. However, groundwater flow data, as illustrated on Figure 3 of the Groundwater Recovery and Treatment System - Upgrade Report (May 1999), indicate that groundwater flow along south property boundary is to the north toward the recovery wells. The data suggest the upgraded Groundwater Recovery and Treatment System is providing hydraulic containment of on-site groundwater and VOCs.

Amphenol agrees that additional groundwater elevation and chemistry data may be necessary to assure that the existing groundwater recovery system is adequately containing VOCs on site. To this end, groundwater elevations and quality samples will be collected from downgradient off-site monitoring wells IT-2 and IT-3 as part of the continuing site monitoring program. Amphenol is also aware that USEPA may request the installation of an additional groundwater piezometer along the southwest boundary of the site to demonstrate that the hydraulic gradient in this portion of the site has been reversed by recovery well RW-4. As you are aware, accessability along the southwest site boundary is limited due to elevated and subgrade utilities present in this area. Amphenol will work closely with USEPA to select an appropriate location for the additional piezometer if installation is deemed necessary.

Treatability Study: Air Sparging/Soil Vapor Extraction

Amphenol acknowledges USEPA's conclusion that based on the results presented in the Treatability Study: Air Sparging/Soil Vapor Extraction System Final Report the design and installation of a full scale AS/SVE system for the Franklin site is not appropriate.

Webb Well Field Evaluation

The Webb Well Field Evaluation Report (May 1999) concluded that the Wittman Hydro Planning Associates, Inc. (WHPA) report "Protecting Groundwater at the Indiana American Water Company's

Mr. Walter Francis October 20, 1999 Page 3 of 3

Webb Well Field near Franklin Indiana" (June 1997), did not demonstrate that the Franklin Power Products Site is the source of VOCs detected at the Webb Well Field.

Further review of historic site groundwater flow data presented in the Remedial Feasability Investigation Report (WW Engineering & Science, June 1994) indicates a consistent north to south flow direction across the site. The north to south groundwater flow is exhibited in both the shallow (B Unit) and deeper (D Unit) portions of the aquifer. In addition, recent groundwater elevation data collected during upgrade/shutdown of the recovery system also confirm the north to south flow pattern (Groundwater Recovery and Treatment System Upgrade Report, O'Brien & Gere, May 1999). The data do not indicate that hydraulic gradients or groundwater flow direction were affected by the pumping of the Webb Well Field wells located cross-gradient, and approximately 4,000 feet east-northeast of the Site. Furthermore, based on conversations with the Indiana-American Water Company-Johnson County Office field representative, we were advised that the pumps in all but one of the Webb Well Field wells were removed, and that the remaining well operates only during times of drought or for emergency use. The Sugar Creek Well Field, located approximately four miles east of the Site, currently serves as the sole source of municipal water for the City of Franklin.

Amphenol understands that due to the prior decommissioning (mid-1980s) of two site monitoring wells (MW-5 and MW-10), formerly located along the eastern site boundary, USEPA is concerned that a data gap may exist in this area. As discussed with USEPA, Amphenol is prepared to installed a replacement monitoring well between existing monitoring wells MW-9 and IT-3 to provide supplemental groundwater elevation and chemistry data in this area, if deemed necessary. This well would be included in the continuing site monitoring plan.

Amphenol appreciates the opportunity to work with USEPA to implement a technically feasible and equitable remedial solution for the Site. Should you have any questions regarding this transmittal, please call Sam Waldo of Amphenol Corporation at (203) 265-8760 or me.

Very truly yours,

SECOR International Incorporated

William J. Gabriel, P.G.

Principal Hydrogeologist

WJG/gap

cc: Corrective Action Section/Indiana Department of Environmental Management (IDEM)

Sam Waldo (Amphenol Corporation)

Michael Jarvis (Franklin Power Products, Inc.) Robert Baker (Franklin Power Products, Inc.)

David Walker (TECHLAW)

Amphenol



World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

November 17, 1998

Mr. William Buller - DRE-9J Enforcement and Compliance Assurance Branch U. S. Environmental Protection Agency, Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

Re: Franklin Power Products/Amphenol Corporation, Franklin, IN

IND 044 587 848

Dear Mr. Buller:

Pursuant to our conversation on Monday, November 16, 1998, I have enclosed copies of the O&M summaries for the ICM which I had neglected to send you earlier. Please note that the reports covering August and September are dated October 6, 1998. The report covering October has not yet been submitted. As I noted in my earlier letters, I am prepared to continue to send these reports to you on a voluntary basis until the schedule included in the AOC takes effect..

Please let me know if you have any questions regarding the above.

Yours sincerely,

Samuel S. Waldo

Director, Environmental Affairs



Indiana-American Water Company, Inc.

401 Camby Court • P.O. Box 570 • Greenwood, Indiana 46142-0570 • (317) 885-2400 • (317) 885-2406 FAX

IND 049 587 848

March 2, 1998

Paul Little, Chief MI/WI Section Enforcement and Compliance Assurance Division Waste, Pesticides and Toxics Division 77 West Jackson Boulevard Chicago, IL 60604-3590

Dear Mr. Little:

We regret to inform you that there is no specific pump/aquifer tests data for our Webb well field near Franklin, Indiana. The estimates we have made of long-term and short-term well field capacity (2 and 3 MDG respectively) have been determined by the many years of experience our operators have at the facility. In our analyses of the capture zones for the well field, we found that at historic annual average pumping rates of the Webb well field (2.5 MGD) the capture zones included the FPP facility. In the modeling conducted by WHPA, Incorporated, the transmissivity of the narrow outwash aquifer along Hurricane Creek has a lower limit of approximately 10,000 ft2/day. This modeling also suggests that the Creek is a boundary condition for flow with substantial hydraulic resistance (10-25 days).

It is the position of Indiana-American Water Company (IAWC) that the contamination of soil and groundwater at the Franklin Power Products/Amphenol facility (FPP) is the source of the DCE and DCA that has been measured in the raw Webb well water. This conclusion is based on the following:

- 1. a release of solvents did occur at FPP
- 2. concentrations of DCE and DCA increased in well #3 at Webb a decade or more later
- modeling for wellhead protection shows FPP in the steady state capture zone
 of the wells
- 4. particle tracking suggests that contaminants from FPP would arrive at well #3
- contaminant transport modeling experiments corroborated the observations at the well field

Mr. Paul Little Page 2 March 2, 1998

Further, we suggest that the EPA shift the burden of the FPP analysis. Rather than attempting to determine whether the contaminants in our wells came from their facility, it might be more instructive to have FPP design the analysis to identify release and contaminant transport scenarios that illustrates how the groundwater contamination at their facility would be unable to reach our community water supply wells. It is our position that WHPA, Incorporated already completed this analysis.

Our commitment to high water quality standards for drinking water is the essence of our business. The degradation of raw water quality at the Webb well field has effectively limited the capacity of the Franklin community water supply system. The changes in water quality from the Hurricane Creek aquifer system near Franklin, Indiana have forced us to look elsewhere for capacity to serve the local residents. We are currently assessing our legal options at this time.

Please contact me at your earliest convenience if you have any questions.

Sincerely yours,

INDIANA-AMERICAN WATER COMPANY, INC.

Eric W. Thornburg

Vice President-Operations

EWT/mr

Receipt for Certified Mail

US Postal Service

DEC 11 1998

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Eric W. Thornburg
Vice President-Operations
Indiana-American Water Company, Inc.
401 Camby Court
P.O. Box 570
Greenwood, Indiana 46142-0570

Re: Administrative Order on Consent Docket No. R8H-5-99-002

Franklin Power Products, Inc./Amphenol Corporation

IND 044 587 848

Dear Mr. Thornburg:

Please find enclosed a copy of the fully executed Administrative Order on Consent with Franklin Power Products, Inc./Amphenol Corporation. The Order imposes the implementation of the selected remedy for Respondents' facility as specified in the Interim Final Decision. In addition to requiring clean up actions at the facility, the Order also requires the investigation of the possible impact of facility contaminants on your Webb Well Field. The Respondents are required to submit a report on the investigation within 90 days of the effective date of the Order (December 8, 1998). You will be provided with a copy of Respondents' report. It is our intent that this matter be thoroughly investigated and properly resolved.

No Insurance Coverage Provided. Do not use for International Mail (See reverse) Sent to Mr. Eric c. w. Thorn bugg Post Office, State, & ZIP Code
Post Office, State, & ZIP Code
The 4614Z \$ 3.00 Postage 1.35 Certified Fee Special Delivery Fee Restricted Delivery Fee Return Receipt Showing to Whom & Date Delivered Return Receipt Showing to Whom Date, & Addressee's Address 3800, TOTAL Postage & Fee Postmark of Date Form PS

If you have any questions please call me at (312) 886-4568, or Paul Little, Chief, MI/WI Section, at (312) 886-4460.

Sincerely,

William Buller, Project Coordinator Enforcement and Compliance Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section

cc: John Gunter, IDEM (enclosure)

bcc: Larry Johnson, ORC (w.o. enclosure)

ENFORCEMENT AND COMPLIANCE ASSURANCE BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
AUTHOR/ TYPIST	MINN/OHIO SECTION CHIEF	MICHIGAN/ WISCONSIN SECTION CHIEF	ILLINOIS/ INDIANA SECTION CHIEF	ECAB BRANCH CHIEF	WPTD DIVISION DIRECTOR





World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

Certified Mail, Return Receipt Requested

December 7, 1998

Mr. William Buller - DRE-9J Enforcement and Compliance Assurance Branch U. S. Environmental Protection Agency, Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

Re: Project Coordinator Designation

Project Contractor/Consultant Designation

Franklin Power Products/Amphenol Corporation, Franklin, IN

Administrative Order on Consent (AOC)

IND 044 587 848

Dear Mr. Buller:

Pursuant to Paragraph VII.A. - <u>Project Coordinator</u>, please be advised that Samuel S. Waldo, Director of Environmental Affairs for Amphenol Corporation, will serve as Project Coordinator, overseeing the implementation of the subject AOC.

Paragraph IX.E. of the AOC requires Respondents to notify USEPA of the name of the consultant/contractor to be used in carrying out the terms of the AOC. As described in my June 4, 1998 correspondence to you, Amphenol has selected O'Brien & Gere Engineers, Inc., to carry out the requirements of the AOC. A Statement of Qualifications for The O'Brien & Gere Companies, was included in that correspondence. O'Brien & Gere is not on the List of Parties Excluded from Federal Procurement or Non-Procurement Programs. As we discussed in our conversation of December 7, 1998, another submittal of the Statement of Qualifications will not be necessary with this notification. If, however, there are any questions regarding the selection of O'Brien & Gere, please contact me. A copy of the fully executed AOC, along with specific instructions to provide copies to subcontractors, was provided to O'Brien & Gere by letter dated December 7, 1998.

Please let me know if you have any questions regarding the above.

Yours sincerely,

Samuel S. Waldo

Director, Environmental Affairs

cc: R. Baker - FPP

W. Gabriel - O'B&G

AUG 28 1997

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DRE-8J

Mr. Samuel S. Waldo
Director of Environmental Affairs
Amphenol Corporation
358 Hall Avenue
P.O. Box 5030
Wallingford, Connecticut 06492

Mr. J. Michael Jarvis Franklin Power Products 400 Forsythe Street Franklin, Indiana 46131

Re: Administrative Order on Consent (dated November 27, 1990) Interim Final Decision/Response to Comments Franklin Power Products/Amphenol IND 044 587 848

Dear Mr Waldo and Mr. Jarvis:

Please find enclosed an Interim Final Decision/Response to Comments (IFD/RTC) which describes the selected remedy for your facility. The Corrective Measures Study (CMS) Report dated September 1995, and the "Additional Studies" CMS Report dated November 1996, which were approved for public review, are hereby approved as final reports by the United States Environmental Protection Agency (U.S. EPA).

The IFD/RTC is designated as an interim document to allow for possible corrective measures pertaining to Indian-American Water Company, Inc.'s well field. Indiana-American provided comment on the facility Statement of Basis, stating they had reason to believe that contamination at the facility is impacting their well field which provides water to the citizens of Franklin. Subsequently, the company submitted to U.S. EPA a hydrological report to support this premise. U.S. EPA finds that the report presents a reasonable possibility that contamination at your facility may be impacting the well field. Consequently the remedy includes the requirement that this matter be investigated further, and if such impact is confirmed, that appropriate corrective action be taken. A copy of the Indiana-American

report is enclosed for your review.

The above referenced Administrative Order on Consent (AOC) provides for a forty five (45) day negotiation period to develop a new AOC for implementation of the selected remedy. U.S. EPA will forward to you a draft AOC in the near future.

U.S. EPA is willing to meet with you to discuss specific elements of the AOC so as to expedite its development. If you wish to arrange a meeting, or if you have any questions, please contact me at (312) 886-4568.

Sincerely,

William Buller, Project Coordinator Enforcement and Compliance Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section

Enclosure

cc: Michael Sickels, IDEM w/o enclosure
John Koehnen, A.T. Kearney w/o enclosure

bcc: Larry Johnson, ORC w/o enclosure

ENFORCEMENT AND COMPLIANCE ASSURANCE BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
AUTHOR/ TYPIST	MINN/OHIO SECTION CHIEF	MICHIGAN/ WISCONSIN SECTION CHIEF	ILLINOIS/ INDIANA SECTION CHIEF	ECAB BRANCH CHIEF	WPTD DIVISION DIRECTOR
19 8(28/a1					

LARRY JOHNSON

R5WST.R5RCRA(BULLER-WILLIAM)

8/19/97 3:03pm

Subject: amphenol -Reply

Letter looks fine except for a couple of typos. (To Woldo)

Press Release:

- 1) end of 2nd para, insert this sentence: "In response to a comment received by U.S. EPA during the public comment period, the selected remedy also includes a requirement that an additional investigation be conducted to determine whether the Facility is a source of possible contamination of a nearby water supply well field."
- 2) 3rd para. Copies of the Interim Final Decision Document

Larry Johnson, 6-6609 8/19/97

>>> WILLIAM BULLER 08/19/97 02:08pm >>> Waldo / Amnhano / to
Larry attached is letter to amphenol let me have your comments if you concurr could you do it by wpo - specify the date of the message and attachment.

amphenol still hasnt given us any response on deed restriction to the facility their attorney called you. We can put a deadline on this in the new aoc?

also can you let me have your comments on newspaper add

Re: a: Lamptd/th. wol

AUG 0 4 1997

DATE: D-8J

SUBJECT: Request for Concurrence of Interim Final

Decision/Response to Comments

Franklin Power Products/Amphenol Facility

Franklin, Indiana IND 044 587 848

Original Signed by Norman R. Niedergang

FROM: Norman R. Niedergang, Director

Waste, Pesticides, and Toxics Division

TO: David Ullrich

Acting Regional Administrator

IST MICHELLE 9 1997

Attached for your review and signature is the Interim Final Decision/Response to Comments for the Franklin Power Products/Amphenol Facility. The document is termed Interim Final Decision since the remedy requires Respondents to investigate possible contaminant migration from the facility to a well field that provides water to the citizens of Franklin. The remedy specifies that if such contaminant migration is confirmed, appropriate corrective action will be required. All public comments received in the public comment process were considered and are responded to in this document.

To address contaminated soil and groundwater at the Facility, the selected remedy includes institutional controls, operation of an existing on-site groundwater recovery system that will be upgraded, implementation of an air sparging and soil vapor extraction system, and monitoring. Any corrective action taken concerning the well field is not expected to interfere with these remedial actions. The selected remedy provides protection to human health and the environment and we recommend that you sign the Interim Final Decision/Response to Comments.

If you have any questions, please contact Bill Buller of my staff at 886-4568.

Attachment

cc: Mike McClary

Thomas Linson, IDEM

bcc: Larry Johnson, ORC

OFFICIAL FILE COPY

ENFORCEMENT AND COMPLIANCE ASSURANCE BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
AUTHOR/ TYPIST	MINN/OHIO SECTION CHIEF	MICHIGAN/ WISCONSIN SECTION CHIEF	ILLINOIS/ INDIANA SECTION CHIEF	ECAB BRANCH CHIEF	WPTD DIVISION DIRECTOR
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1/18/97



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL RISK MANAGEMENT RESEARCH LABORATORY SUBSURFACE PROTECTION AND REMEDIATION DIVISION P.O. BOX 1198 • ADA, OK 74820

IND 094 587 848

August 1, 1997

ivision

OFFICE OF RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT:

Amphenol Facility, Franklin, Indiana (96RC05-001)

Report of an Evaluation of the On-Site Recovery System

FROM:

Steven D. Acree, Hydrogeologist

Technical Assistance & Technology Transfer Branch

TO:

Bill Buller, RPM

U.S. EPA-Region 5

Per your request for continuing technical assistance, the referenced report has been reviewed. In general, the potentiometric data indicate that the current extraction system is not depressing the water table below the elevation of the storm sewers at the site and may not be effectively capturing contaminated ground water at the site boundary. Detailed comments and recommendations concerning these issues and the proposed system upgrades are provided below.

Section 6.1, page 10; Section 7.2.1, page 14 1.

The report interprets the ground-water elevation information as indicative of capture between wells RW-1 and RW-2. However, there are two concerns regarding this interpretation of the data. It appears that this interpretation relies heavily on data from the pumping wells. Ground-water elevation data from an actively pumping well are generally not representative of elevations in the aguifer immediately adjacent to the well due to head losses associated with well inefficiency. Reinterpretation of the potentiometric surface without data from the pumping wells indicates ground water in this area is influenced by extraction but complete capture is not indicated. In addition, the report notes that infiltration into the storm sewer in the vicinity of well RW-3 may be resulting in some water table depression. The same situation may be occurring near wells RW-1 and RW-2. The water table depression observed in this area may be, in part, the result of water infiltration into the sewer. The monitoring system is not sufficient to distinguish capture by the sewer system from capture by the pumping wells. Based on the positions of these features, data to make such distinctions would be difficult to obtain. Therefore, the statement that contaminated ground water in this area is captured by the pumping wells does not appear to be supported. It is noted that efforts to increase pumping rates from the recovery system are proposed. It is recommended that capture be re-evaluated following system upgrades.

2. Section 7.4, page 16

Upgrading of pumps and installation of an additional recovery well are recommended in this section to increase recovery rates. These actions will probably improve water table depression near the storm sewer and increase capture of contaminated ground water. However, it is not clear that these efforts will be sufficient to meet the stated objectives. Other modifications, such as installation of additional conventional wells or vacuum extraction through multiple well points, may be required for effective water table depression in this setting and should be considered during this phase of investigation.

If you have any questions concerning these comments, please do not hesitate to call me at your convenience (405-436-8609). We look forward to future interactions with you concerning this and other sites.

cc: Paul Nadeau (5202G)
Mike Fitzpatrick (5303W)
Thad Slaughter, Region 5
Carol Witt-Smith, Region 5

RZZ ROS033.01-EP-037

MEMORANDUM

TO:

Mr. Bill Buller - U.S. EPA Region 5

FROM:

John Koehnen - A.T. Kearney

SUBJECT:

file

Review of Franklin Power Products/Amphenol

Response to Comments on Statement of Basis

DATE:

July 10, 1997

cc:

This memorandum serves to summarize the findings of my review of the U.S. EPA's Response to Comments on the Statement of Basis for the Franklin Power Products/Amphenol facility. The Response to Comments was generated following the public comment period for the Statement of Basis which ended on May 30, 1997

As you know, A.T. Kearney has not received or reviewed a final copy of the Statement of Basis. However, based upon my review of the preliminary draft of the Statement of Basis and my familiarity with the site, I reviewed the Response to Comments on the Statement of Basis as submitted (i.e., without Statement of Basis attached) as you requested.

I have noted minor editorial changes which I recommend for clarity directly onto a copy of the document which accompanies this memorandum. In general, I found the Response to Comment document to provide an adequate level of detail when responding to each of the questions/comments which arose during the public comment period. Since I am not entirely sure of the mechanism which U.S. EPA uses to respond to each question/comment, no significant changes were made to the responses which may have altered the nature of the response. Additionally, since the potential remedy may include an east-west oriented SVE/AS system, I recommend that the proposed location of the system be presented on the associated figure. It appears that only the north-south oriented system is currently presented on the figure.

If you have any concerns or wish to further discuss this issue, please feel free to contact myself or Mr. Todd Quillen, who can be reached at (312)-223-7129.

Final Decision/Response to Commonts RCRA CONSENT AGREEMENT AND FINAL ORDER SIGN-OFF

PART I	BAC	KGROUND							
	Facili	ty Name Frantlin Pou	ver Prod	ucts/	Ampi	heno (
	Facili	ty EPA ID Number ///	044 58	37 8-	48				
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	6.	Director, WPTD		11					
	7.	Regional Administrator		11					
PART V	RET	URN TO A. PERRY, DRE-	8J. FOR MAI	LING					

HAVE YOU COMPLETED THE CASE CONCLUSION DATA SHEET? DO NOT

FORWARD IF IT IS NOT INCLUDED IN SIGN-OFF PACKAGE.

INTERIM FINAL DECISION/RESPONSE TO COMMMENTS

FOR

FRANKLIN POWER PRODUCTS/AMPHENOL FACILITY
FRANKLIN, INDIANA
IND 044 587 848

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA)

INTERIM FINAL DECISION/RESPONSE TO COMMENTS Franklin Power Products/Amphenol Facility Franklin, Indiana IND 044 587 848

INTRODUCTION

The Statement of Basis developed by the United States Environmental Protection Agency (U.S. EPA) for the Franklin Power Product/Amphenol (FPP/A) Facility was presented for public comment during the period of April 15 to May 30, 1997. facility is located at the corner of Hurricane Road and Hamilton Avenue in Franklin, Indiana. The Statement of Basis discussed several viable alternative remedies for cleaning up the facility and presented the remedy proposed by U.S. EPA. Decision/Response to Comments document presents the comments provided by the public, U.S. EPA's responses to the comments, and also presents the remedy selected by U.S. EPA. The remedy selected by U.S. EPA is similar to the remedy proposed in the Statement of Basis, but has been modified as a result of additional information provided in "Report of an Evaluation of the On-site Recovery System", June 1997 submitted by the FPP/A Facility, FPP/A's comment, and Indiana-American Water Company's comment, which were provided in the public comment process.

SELECTED REMEDY

The selected remedy by U.S. EPA includes the institutional controls (facility deed restriction, restriction of water well drilling permits, and advisory of confined space entry to sewer manholes) to prevent contact with contaminants; operation of an existing on-site groundwater recovery system that is to be upgraded; implementation of an air sparge/soil vapor extraction (SVE) system that focuses on the focal point of contamination; and a monitoring system to evaluate the results.

The June 1997 report submitted by the Facility concluded that the recovery system requires expansion. The report proposed that the pneumatic pumps in the recovery wells be replaced with submersible electric pumps, and that an additional recovery well be installed at a location west of the existing recovery wells. The proposed upgrade of the groundwater recovery system is incorporated into the selected remedy. The approximate location of the additional recovery well (RW-4) is shown in figure 4-1.

The electric pumps will increase the drawdown of groundwater levels at the facility and minimize the infiltration of contaminated groundwater into the storm sewer at the facility, thereby minimizing the discharge of contaminated water to

the focal point of contamination has the potential to achieve a high degree of remediation. The overall remedy, which includes institutional controls to prevent contaminant contact, containment of contaminated groundwater, remediation of the major source of contamination, and monitoring to assess the results, provides protection to human health and the environment. As noted in the response to comments section, public water supply systems must meet drinking water standards.

COMMENTS/RESPONSES

Comment - Citizen inquired as to degree and nature of contamination near the southeast corner of facility and the associated health risks.

Response - Off-site groundwater contaminant concentrations at this location exceed State drinking water standards. However, Franklin residents are served by a commercial water supply system and consumption of the water is not expected. Since the contamination in this area is not of a highly toxic nature and occurs at depths of ten feet or more, no appreciable risk is incurred.

Comment - Citizen inquired as to how long the occurrence of the contamination at the facility had been known.

Response - This matter drew public attention in about 1984 when preliminary investigative activities and soil removal were performed at the facility.

Comment - Citizen inquired as to location and availability of public records so that the progress of the cleanup at the site can be followed.

Response - A Repository for the FPP/A Facility that contains the principal documents developed under the corrective action activities has been established in the Adult Reference Department, Johnson County Public Library, 401 State Street, Franklin, Indiana 46131. U.S. EPA will add critical documents to the repository as developed in the future. Interested parties should inquire at the front desk of the library for access to the repository.

Comment - Local reporter called and stated that the Statement of Basis contained considerable jargon and asked for a general explanation of the proposed remedy. The reporter also inquired as to why such extensive time period is required to move through the corrective action process.

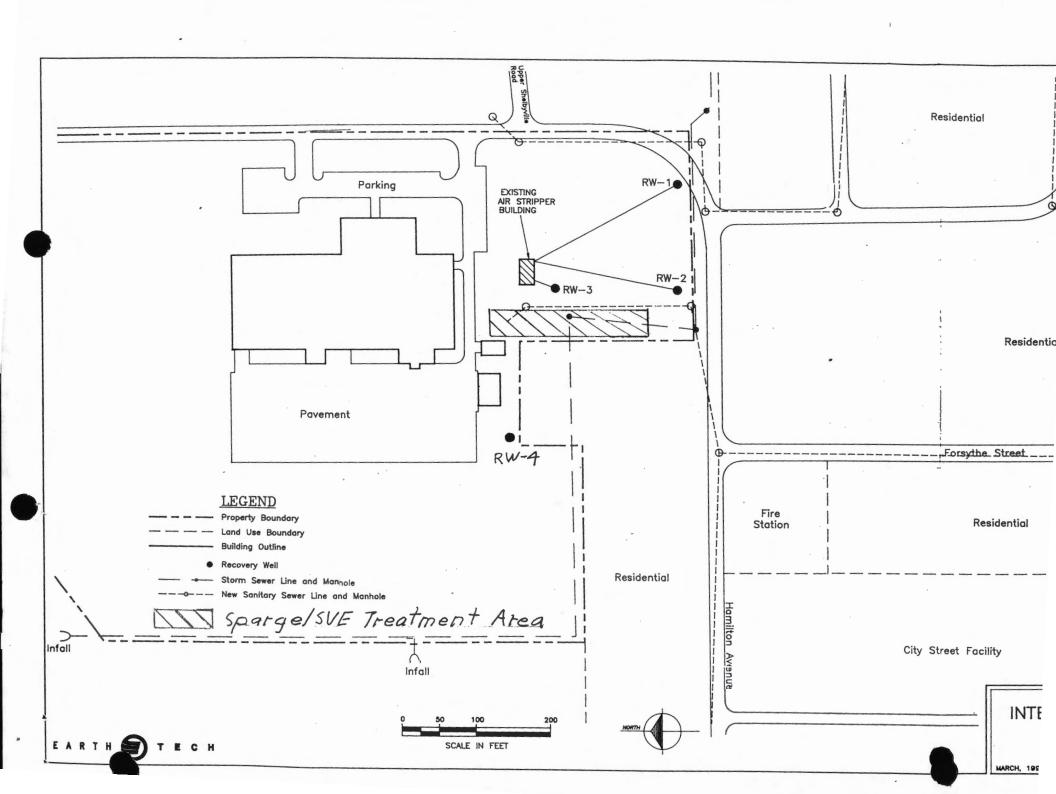
information, or the results of further investigations, provides sufficient evidence that contamination at the well field is linked to the facility, U.S. EPA will take appropriate action under the authority of RCRA or the Comprehensive Environmental Response, Compensation, and Liability Act, or other authority as appropriate.

The Indiana-American well field is located east and north of the facility. Existing data indicates that the groundwater contaminant plume at the facility is migrating in a southeast direction towards Hurricane Creek in response to normal hydrologic conditions. Data also indicates that the contaminant plume is confined to a thin surficial water bearing zone 10-20 feet in depth that is underlain by geologic strata which limits downward movement of water. However, this data does not preclude the possibility that pumping at the Indiana-American well field is affecting natural conditions and that contaminants at the facility may be drawn in to the water supply wells that are about 100 foot in depth. The matter of contamination of water supply wells is a critical matter and further investigation of this matter is part of the remedy. Whether U.S. EPA will require monitoring keyed to facility-well field interaction is contingent upon the results of this investigation. As noted in the comment above, the Well Head Protection Program is administered by the State and monitoring may be required under that program.

It should be noted that the selected remedy will reduce contaminant concentrations in groundwater and thereby reduce the impact to any wells that may be drawing in contaminated water from the facility. Therefore, U.S. EPA intends to proceed with the corrective action process and implementation of the selected remedy. If it is determined that the facility is impacting the well field, any action taken is expected to be consistent with implementation of the remedy.

Comment - The FPP/A Facility provided comment on the Statement of Basis. The comment stated that the north-south aligned sparge/SVE system, which focuses on the highly contaminated area at the sanitary sewer line, had a high potential to achieve significant remediation, but the east-west aligned sparge/SVE system at the southern property boundary (included in U.S. EPA's proposed remedy) may not provide significant remediation. The comment suggested that implementation of the east-west system should be contingent on the results of pre-design data and take into consideration any upgrades to the existing recovery system, and that the final design of a sparge/SVE system should be based on an expanded, more current data base.

Response - This comment, as well as the information provided in



B. (

DRE-8J

Karen Emery
Adult Services Librarian Office Letter enclosed in

Johnson County Library
401 State Street

Franklin, Indiana 46131

Dear Ms. Emery:

Please add the following documents to the Franklin Power Products/Amphenol Facility Document Repository maintained in your reference section.

- (1) Interim Final Decision/Response to Comments-Franklin Power Products/Amphenol Facility.
- (2) Administrative Record-Franklin Power Products/Amphenol Facility.
- (3) Draft Report of an evaluation of the On-Site Recovery System, Former Amphenol Facility, Franklin, Indiana (Dated June, 1997).
- (4) Protecting Ground Water at the Indiana American Water Company's Webb Well Field near Franklin, Indiana (Dated June 30, 1997).
- (5) RCRA Facility Investigation (RFI) Work Plan and Quality Assurance Plan-Amphenol Corporation Franklin, Indiana (October, 1998).
- (6) Technical Memorandum WW Engineering and Science Preliminary Results of Plume Delineation in the Upper Aquifer (June 23, 1992).
- (7) Installation of Additional Monitoring Wells and Sampling-RFI (October 12, 1992).
- (8) Technical Memorandum WW Engineering and Science Results of November 1992 Geoprobe Groundwater Sampling Results (November 23, 1992).

Please fill out the enclosed form and return to me in the self

addressed envelope. Thank you for your assistance.

In the near future U.S. EPA will be placing a newspaper ad notifying the public that the Final Decision Document was added to the repository.

If you have any questions or concerns, please call me at (312) 886-4568, or toll free at 1-800-621-8431.

Sincerely,

William Buller, Project Manager Enforcement, Compliance and Assurance Branch Waste, Pesticides, and Toxics Division MI/WI Section

cc: Michael Sickels, IDEM

ENFORCEMENT AND COMPLIANCE ASSURANCE BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
AUTHOR/ TYPIST	MINN/OHIO SECTION CHIEF	MICHIGAN/ WISCONSIN SECTION CHIEF	ILLINOIS/ INDIANA SECTION CHIEF	ECAB BRANCH CHIEF	WPTD DIVISION DIRECTOR
MD 8-28-97					8 2 1

Amphenol

inphenol Corporation

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

May 28, 1997

Mr. David Novak
Community Relations Coordinator
U.S. Environmental Protection Agency, Region 5 P-19J
77 West Jackson Boulevard
Chicago, IL 60604

Mr. William Buller
Enforcement and Compliance Assurance Branch
Waste, Pesticides and Toxics Division, MI/WI Section
U.S. Environmental Protection Agency, Region 5 DRE-8J
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Corrective Action - Statement of Basis

Franklin Power Products/Amphenol Corporation

IND 044 587 848

Dear Mr. Novak and Mr. Buller:

The following comments on the subject Statement of Basis are submitted on behalf of Franklin Power Products and Amphenol Corporation as Respondents to the November 27, 1990 Administrative Order on Consent.

In its Corrective Measures Study (CMS), Respondents proposed the implementation of Alternative 5 (institutional controls, monitoring, ground water extraction and focused air sparging and soil vapor extraction). Although the CMS concluded that the arrangement of the On-Site Recovery System (ORS) recovery wells would be generally effective in minimizing the migration of impacted ground water off site, air sparge/SVE technology was included to address the severe impact present in the vicinity of the sanitary sewer break on-site which could likely be a continuing source for contaminant migration. The CMS further stated that the scope of a sparge/SVE system could be expanded if additional monitoring data indicated that impacted ground water is migrating off-site.

In its justification for proposing Alternative 3, USEPA states that incorporation of the expanded sparge/SVE system is in keeping with USEPA policy that soils that act as a contaminant feed source to ground water be treated so as to minimize this effect. While Respondents acknowledge



Mr. David Novak Mr. William Buller May 28, 1997 Page 2

that soils in the vicinity of the old sewer line may be acting as a source and that a sparge/SVE system at that location could be effective, the data in the area of MW-27, MW-28 and MW-29 are much more equivocal. In fact, the only soils data available for evaluation are from MW-27 and those data, as well as ground water data available for these three monitoring points are more than four years old.

Several factors suggest that the focused approach proposed in Alternative 5 is preferable to the expanded system recommended by USEPA. Preliminary findings from two rounds of tape-down measurements conducted for the ORS Evaluation indicate that there is ground water depression in the vicinity of the east-west portion of the storm drain near MW-28, and that ground water is flowing toward the northwestern recovery well (RW-3). One of the recommendations of this evaluation will be to increase the pumping capacity in existing recovery wells to provide additional drawdown capabilities.

CMS investigations, as well as the quarterly analyses of ORS influent, indicate that subsurface conditions have changed significantly at the site since the RFI work was conducted. Respondents believe that the extent of any sparge/SVE system should be based on current data generated for the pre-design study necessary before any system is designed and constructed. The pre-design study would focus on the area around MW-27, MW-28 and MW-29, the east-west portion of the storm drain in the vicinity of these monitoring wells, and the area of the old sanitary sewer line. Should the results of this pre-design study indicate the need for a sparge/SVE system in these areas, the size and configuration would be based on the results of that study rather than solely on the dated information from the RFI. The recommended system would also include institutional controls and monitoring described in each alternative in the CMS, as well as any modifications or upgrades to the existing ORS recommended by the ORS Evaluation Report.

Respondents are available to discuss the above suggestions should EPA desire. Please contact me if you have any questions or need further clarification.

Yours sincerely,

Samuel S. Waldo

Director, Environmental Affairs

cc: J. M. Jarvis, Franklin Power Products

Michael Sickles, IDEM J. H. Keith, Earth Tech

97-28.doc



Indiana-American Water Company, Inc.

401 Camby Court • P.O. Box 570 • Greenwood, Indiana 46142-0570 • (317) 885-2400 • (317) 885-2406 FAX

May 22, 1997



DIVISION FRONT OFFICE Waste, Pesticides & Toxics Division U.S. EPA – REGION 5

D. 3, 1

Mr. William Buller
Waste, Pesticides and Toxics Division
U.S. EPA (DRE-8J)
77 W. Jackson Boulevard
Chicago, Illinois 60604

Re: Contaminated Ground Water and Soil Franklin Power Products / Amphenol Facility Franklin, Indiana

Dear Mr. Buller:

Indiana - American Water Company, Inc. provides drinking water service to nearly 500,000 people in the state including 45,000 people in Johnson County. We are a wholly owned subsidiary of the American Water Works Company, Inc. serving in 21 states. We purchased the Franklin operation in September 1993.

One of our critical sources of supply is located near the Franklin Power Products facility (formerly known as the Bendix site). We have reason to believe that the contamination found there may be impacting our operations. We are currently completing a detailed review of the situation and request a 45 day extension to finalize our work.

We recognize the need to resolve these matters in a timely fashion and will be prepared in the near future to present our findings.

Sincerely yours,

INDIANA-AMERICAN WATER COMPANY, INC.

Eric W. Thornburg

Vice President-Operations

EWT/me

From:

John Grimmer <jgrimmer@indiana.edu>

WILLIAM BULLER <BULLER.WILLIAM@epamail.epa.gov>

5/12/97 4:26pm

Re: Franklin Power Products/Amphenol

** Reply to note from WILLIAM BULLER <BULLER.WILLIAM@EPAMAIL.EPA.GOV> Mon, 12 May 1997 10:40:15 -0500

> This well field is

> located upgradient of the Amphenol facility, so groundwater migration

- > from Amphenol is in the opposite direction. It is concievable though that
- > the municipal well field may be drawing in some contamination from the

> Amphenol site by their pumping operations.

Given the shallow gradient and permiable soil structure it is not unlikely they are moving the hydrocarbons

> To verify this assumption,

> could be difficult and would more than likely require extensive test well

> installation.

There is an existing well directly in line and half way between the contaminated site and the well field. The Water Co. will be obligated to eventually install wellfield monitoring holes under the Wellhead Protection Program. Taking advantage of existing and future test wells and coordinating the data from those samples could provide information for better decisions for all concerned.

John Grimmer

ManoFarm

317 736 0400

jgrimmer@indiana.edu

ject:

WILLIAM BULLER

RPTmainhub.internet:jgrimmer@indiana.edu

Franklin Power Products/Amphenol

Thanks for your response.

Question concerning the municipal water well field - This well field is located upgradient of the Amphenol facility, so groundwater migration from Amphenol is in the opposite direction. It is concievable though that the municipal well field may be drawing in some contamination from the Amphenol site by their pumping operations. To verify this assumption, could be difficult and would more than likely require extensive test well installation. I assume that the Indiana-American Water Co. finds that the best approach is to dilute water before delivering. To the best of my knowledge, as long as the water delivered to consumers meets drinking water standards this is satisfactory.

Amphenol is currently pumping water from recovery wells on the property and treating the water before discharging to the city sewer system as permitted by the city. Monitoring indicates the contaminant concentrations are decreasing. The additional cleanup action proposed by EPA will provide additional control of the contamination.

A document repository for the Franklin Power Products/Amphenol Facility has been established at the Johnson Count Library, 301 State Street, Franklin, Indiana. This repository provides the environmental information developed to date. This information is also available at the EPA records Center, 7th Floor, 77 W. Jackson, Chicago, Illinois. The name and location of the facility is all that is needed really but here EPA's ID number for this facility IND 044 587 848.

I hope this answers you questions, if you have additional questions please call our toll free number at 1-800 621-8431 and ask for me, or call me directly at (312) 886-4568.

Subject:

John Grimmer &jgrimmer@indiana.edu

R5WST.R5RCRA(BULLER-WILLIAM)

5/11/97 11:16am

P-19J, Franklin Power Products / Amphenol

5-11-97

Dear Mr. Buller,

The Franklin Power Products / Amphenol facility is within .6 mile of a municipal water well field operated by Indiana-American Water Co. that supplies the city of Franklin. Cis-1,2-dichloroethylene has been identified at the wellheads closest to the FPP/A facility. Indiana-American dilutes this contaminated water and does not report the presence of contamination in its publications of water quality distributed to the public. This well field is not yet monitored the Indiana Wellhead Protection Program.

Please include monitoring and reporting movement of the contaminant plume towards this public well field.

How can one follow the progress of the cleanup of this site, where are the public records on file, and what is the reference number or name for this file?

Thank you.

John Grimmer

ManoFarm

317 736 0400

jgrimmer@indiana.edu



UNITED JATES ENVIRONMENTAL PROTECTION .. JENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

APR 0 2 1997

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DRE-8J

Mr David C. Hudak U. S. Fish and Wildlife Service Bloomington Field Office 620 South Water Street Bloomington, Indiana 47403-2121

Re: Corrective Action-Statement of Basis Franklin Power Products/Amphenol IND 044 587 848

Dear Mr. Hudak:

Please fine enclosed a copy of the Statement of Basis for the Franklin Power Products/Amphenol Facility. This document summarizes the information provided in the RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) Report, and also specifies the corrective action remedy proposed for the facility by the United States Environmental Protection Agency (U.S. EPA).

The RFI /CMS and the Statement of Basis are available for public review at the Johnson County Library at Franklin, Indiana. If you wish to provide comments on the Statement of Basis and proposed remedy you may sent written comments to me; Enforcement Compliance Assurance Branch, DRE-8J, U.S. EPA, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590.

If you have any questions please call me at (312) 886-4568.

William Bulla

William Buller, Project Coordinator Enforcement Compliance Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section

cc: Michael Sickels, IDEM

RECEIVED

TAPR . 7 1997

DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
DLID & HAZARDOUS WASTE MANAGEMEN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

UNITED STA

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590 Johnson

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Michael E. Sickels, Chief

REPLY TO THE ATTENTION OF:

3 25 PH

Corrective Action Section
Hazardous Waste Management Branch
Solid and Hazardous Waste Management
Indiana Department of Environmental Management
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana

Franklin Power Products/Amphenol Facility Corrective Action-Statement of Basis

IND 004 587 848

Dear Mr. Sickels:

Please find enclosed two copies of the Statement of Basis for the Franklin Power Products/Amphenol Facility. This document summarizes the information provided in the Facility's RCRA Facility Investigation (RFI)/Corrective Measures Study (CMS)Reports and also specifies the corrective action remedy proposed for the facility by the United States Environmental Protection Agency (U.S. EPA). Also enclosed are copies of risk evaluations for inorganic soil constituents and in-door air which were developed for this site by U.S. EPA.

The RFI, CMS Reports and the Statement of Basis are available for public review at the Johnson County Library at Franklin, Indiana. The public comment period for the Statement of Basis and proposed remedy starts on April 16, 1997, and ends on May 30, 1997. A draft Statement of Basis was previously provided to John Gunter of your staff. The proposed remedy was discussed by Mr. Gunter and me and it is my understanding that our Agencies are in general agreement on this matter. If you have any further comments on the Statement of Basis I can be contacted at (312) 886-4568, or you may send written comments to me at the above address.

Sincerely,

Willeam Bullin

William Buller, Project Coordinator Enforcement Compliance and Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

APR 02 1997

CERTIFIED MAIL RETURN RECEIPT REQUESTED REPLY TO THE ATTENTION OF:

DRE-8J

Mr. Samuel S. Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut 06492

Mr. J. Michael Jarvis Franklin Power Products 400 Forsythe Street Franklin, Indiana 46131

Corrective Action-Statement of Basis

Franklin Power Products/Amphenol

IND 044 587 848

Dear Mr Waldo and Mr. Jarvis:

Please find enclosed a copy of the Statement of Basis for the Franklin Power Products/Amphenol Facility. This document summarizes the information provided in the RCRA Facility Investigation and Corrective Measures Study Reports, and also specifies the corrective action remedy proposed for the facility by the United States Environmental Protection Agency.

The RFI/CMS Reports and the Statement of Basis are available for public review at the Johnson County Library at Franklin, Indiana. The public comment period for the Statement of Basis and proposed remedy starts on April 16, 1997, and ends on May 30, 1997. You may provide your comments on this matter by sending such comments to me at the above address.

Sincerely,

William Buller

William Buller, Project Coordinator Enforcement and compliance Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section

Michael E. Sickels, IDEM

STATEMENT OF BASIS

FOR

FRANKLIN POWER PRODUCTS/AMPHENOL FACILITY
FRANKLIN, INDIANA
IND 044 587 848

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA)

RCRA CONCERN SIGN-OFF

PART I	BACKGROUND
	Facility Name Franklin Power Products / Amphenol
	Facility EPA ID Number IND 044 587 848
	Docket Number 3008 to Consent Order dated 11/27/90
	ECAB Assignee/Phone WB 6-4568 ORC Assignee/Phone L Johnson 6-660
	Summary of Agreement Statement of Basis Got
	Facility
PART II	CONCURRENCES ON PROPERTY OF BOSIS
	Initials Date Agree Disagree
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	2. Chief, ECAB Section 3 1819
	3. Asst. Regional Counsel 3/21/97 V
	4. Chief, ECAB \(\frac{\frac{1}{200}}{200} \) \(\frac{1}{200} \)
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	1. ECAB Assignee / /
	2. Chief, ECAB Section //
	3. Asst. Regional Counsel / /
	4. ORC Section Chief / /
	5. Chief, ECAB / /
	6. Director, WPTD /
	7. Regional Administrator / /
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PART V	RETURN TO A. PERRY, DRE-8J, FOR MAILING

STATEMENT OF BASIS

FOR

FRANKLIN POWER PRODUCTS/AMPHENOL FACILITY
FRANKLIN, INDIANA
IND 044 587 848

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA)

STATEMENT OF BASIS

Franklin Power Products/Amphenol Facility Franklin, Indiana IND 044 587 848

INTRODUCTION

This Statement of Basis for the Franklin Power Products/Amphenol (FPP/Amphenol) facility discusses several viable remedies for site remediation and explains the remedy proposed by the United States Environmental Protection Agency (U.S.EPA) to clean up the site. U.S. EPA will select a final remedy for the facility only after the public comment period has ended and the information submitted by the public has been reviewed and considered.

This Statement of Basis is being issued by U.S. EPA as part of its public participation responsibilities under the Resource Conservation and Recovery Act (RCRA). This Statement of Basis summarizes information that can be found in greater detail in the final RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) reports and other pertinent documents contained in the Administrative Record for this facility. U.S. EPA and the State of Indiana encourage the public to review these documents in order to gain a more comprehensive understanding of the facility and the activities that have been conducted under the authority of RCRA.

U.S. EPA may modify the proposed remedy or select another remedy based on public comments or new information obtained. Therefore the public is encouraged to review and comment on the alternatives proposed. If a public meeting is requested, U.S. EPA will publish a newspaper notice of the meeting prior to the meeting date.

PROPOSED REMEDY

U.S. EPA proposes the removal of contaminated groundwater by an on-site groundwater recovery system, treatment of the recovered water and discharge to the City of Franklin sanitary sewer/water treatment system, and additional remediation of soil and groundwater by an on-site air sparging/soil vapor extraction (SVE) system. The proposed remedy includes enactment of institutional controls to prevent contact with contaminants, and enactment of environmental monitoring programs to assess the effectiveness of the remedy implementation.

(4) a 1000 gallon in-ground concrete overflow vault for cyanide storage.

Previous Investigations and Remedial Activities

Investigations and remedial activities were performed at the facility in 1984 and 1985. The investigative activities included borehole drilling and monitoring well installation, and sampling/analysis of soil and ground water. This investigation revealed that a faulty drainage system at the plating room located at the southwest corner of the plant building had caused contaminant releases at the plating room. The investigation also revealed that significant contaminant releases had occurred at the facility sanitary sewer line leading to the main sewer line at Hamilton Avenue. Inspection by video camera of the sewer revealed numerous separated joints and crushed tile about 175 feet north of Hamilton Avenue. Further inspection also revealed that the sanitary sewer manhole at the corner of Hamilton Avenue and Forsythe Street was severely damaged.

Remedial activities in 1985 included removal of the plating room floor and underlying soil containing cyanide and solvent constituents. Soil exceeding 10 parts per million (ppm) of cyanide was removed and disposed in a RCRA permitted landfill. The damaged sanitary sewer on the property was also replaced with a new sewer line. The new line was offset 35 feet to the east of the old sewer line which was left in place. Additional remedial activities included drainage and decontamination of the plant waste water treatment system and plating room tanks. The underground cyanide overflow tank was drained and decontaminated and the pipes capped at the discharge ends. Twelve monitoring wells believed to be improperly constructed were removed and the boreholes grouted. The damaged sewer manhole at Forsythe and Hamilton was also repaired.

A six foot diameter storm sewer that transects the facility is a significant drainage feature at the site. The storm sewer captures drainage north of the facility becoming an underground culvert at the northwest corner of the facility and extending along the entire western property boundary, turning 90 degrees eastward at the southwest corner of the property and extending across the southern part of the facility, and ultimately discharging to Hurricane Creek through a 200 foot open channel.

RCRA FACILITY INVESTIGATION (RFI)

The RFI, the investigative activities performed under the

seasonably fluctuating water table. At depths above the water table, (less than 12 feet) VOC soil contamination is mostly restricted to on site areas with concentrations as high as 1080 micrograms per kilogram (ug/kg). A ug/kg is equivalent to one part per billion. However, due to the movement of contaminated groundwater and soil-water interaction, at depths below the water table (over 12 feet), soil contamination is more widely dispersed and extends off-site. The highest total VOC concentration of 127,800 ug/kg was found near the old sanitary sewer line. PCE is the principal VOC constituent in soils at the facility. distribution of total VOCs in soils at the site is shown in Sheets 5A and 5B of the RFI report titled "Report of RCRA Facility Investigation Activities at the Former Amphenol Site, Franklin, Indiana, Volume 1". The VOC distribution is depicted by concentration contour lines which represent equal lines of VOC concentration in the soil as inferred from the available data.

Due to the physical and chemical characteristics of the VOCs found at the site (low miscibility with water and a specific gravity greater than water), there is a potential for these chemicals to exist as separate phase liquids in the subsurface. Such liquids are referred to as dense non-aqueous phase liquids. Each monitoring well was tested for non-aqueous phase liquids by a special sensing probe; the testing did not identify any such liquids in the subsurface. However, the high soil and groundwater VOC concentrations near the sanitary sewer suggest that the such separate liquids, though probably occurring only in small discrete amounts or droplets rather than distinct pools, may exist to some extent in the subsurface.

At Forsythe Street, where contaminants were apparently released by the sanitary sewer line under the street, VOC concentrations in soils are much lower than levels at the facility property. PCE with a concentration of 37 ug/kg was the highest VOC detected.

The highest cyanide concentration in soils sampled during the RFI investigation was 21.6 milligrams per kilogram (mg/kg). As noted in the Risk Summary section of this document, this concentration level does not exceed base line protection standards established by U.S. EPA. At Forsythe Street the highest cyanide concentration in soils was 1.5 mg/kg. Data indicates that metal concentrations at release areas are similar to background concentrations, and do not exhibit a statistically significant difference when compared to background concentrations.

Groundwater Contamination

Samples of groundwater were collected from monitoring wells and

also found in up gradient wells (background levels). Also, comparison of filtered to unfiltered sample results suggest that the higher concentration levels may be attributed to suspended solids (native soil material) in the sample.

Since there is a potential for the contaminated storm sewer to infiltrate the aquifer near the disharge point at Hurricane Creek, groundwater samples were collected near the sewer outfall and at a downstream sampling point, and a soil sample was collected at a further downstream location. No VOCs were detected in these samples indicating there has been minimal impact to groundwater by the storm sewer. ("Report of Shallow Groundwater Sampling Along Hurricane Creek - November, 1996).

Surface Water and Sediment

To evaluate the impact of the storm sewer discharge on surface water and sediment in Hurricane Creek, water and sediment samples were collected at strategic points and analyzed for VOCs, metals, and cyanide. Analytical results of the sediment samples show that metal concentrations downstream of the discharge point and at the outfall of the sewer are consistent with concentrations at upstream and infall locations. The VOC data and overall impact to Hurricane Creek is discussed in the Ecologic Risk Assessment segment of this Statement of Basis.

Sampling was not conducted along the storm sewer line portion downstream of facility property extending to the outfall. Contamination at this part of the sewer line is not expected since groundwater normally seeps into the sewer line rather than sewer water infiltrating to the groundwater.

RISK SUMMARY

To quantify the risk to human health and the environment imposed by the contaminants at the site, risk assessments were performed for chemicals of concern in soil and groundwater media. Risk resulting from carcinogenic compounds (cancer causing) is expressed as a probability; a risk quantified as 1E-06 is defined as a risk level at which one additional person in one million would develop cancer due to exposure to the compound or group of compounds. Non-carcinogenic risks are expressed as a hazard quotient or hazard indice, with the sum of the hazard quotients representing the total hazard. U.S. EPA generally recognizes a carcinogenic risk of less than 1E-06 as acceptable and not requiring corrective action, whereas carcinogenic risks between 1E-04 (1 in 10,000) and 1E-06 are closely scrutinized in the decision process. A total hazard below 1.0 is recognized as an

(central tendency values), the site risk for adults was 8E-07 (8 out of 10 million) and total hazard was 0.04; whereas the adult background total risk was 1E-06 and total hazard was 0.04. For a child, the site-related total risk was 4E-06 and total hazard was 0.2; as compared to a background total risk of 6E-06 and total hazard of 0.2.

The excess risk, which is defined as a risk greater than 1E-06, is attributed to arsenic and beryllium concentrations in the soil. However, the comparative risk results show there is little difference in site related risk and background risk, in fact the central tendency risks for background were slightly higher than the central tendency site-related risks. It is also noted that the risk calculations were based on a residential land use scenario even though it is likely the facility will remain under industrial use over the long term. Human exposure to contaminants at industrial sites is considerably less than at residential sites. Also, a statistical analysis demonstrated that there were no significant statistical differences between site-related and background concentrations of metals in soils.

Cyanide concentrations in soils were well below SSLs based on the ingestion exposure route and were not detected in groundwater.

Soils - Organic constituents

PCE, TCE, and TCA concentrations exceeded SSLs at the more highly impacted areas. PCE, with a high end concentration of 120,000 ug/kg exceeded the SSLs for ingestion, inhalation, and migration to groundwater of 12,000 ug/kg, 11,000 ug/kg, and 3 ug/kg respectively. Since the VOCs occur at considerable depth, the exceedance of conservative SSLs does not suggest that ingestion or inhalation of VOCs at the site pose an immediate health risk.

At Forsythe Street VOC levels in soils are much lower, the only compound exceeding SSLs was TCE (37 ug/kg, SSL for groundwater = 3 ug/kg).

Groundwater

VOC concentrations in groundwater at the site, both on-site and off-site, exceed Drinking Water Standards. Drinking water standards generally serve as a benchmark in decision making for groundwater remediation. Wide spread contamination and exceedance of standards in most cases requires cleanup for restoration of the groundwater.

In-door air risk

levels at which no adverse affect to a population is observed. This comparison revealed only one incident when these levels were exceeded. In May 1986 the PCE concentration of 1500 ug/l at the sewer outfall exceeded the LOEL level of 840 ug/l. Data indicates that contaminant concentrations in the storm drain are decreasing over time.

The risk to humans through contact with VOCs, primarily children wading the creek, was calculated to be 1E-07.

SCOPE OF CORRECTIVE ACTION

Interim Corrective Measures

Several corrective measures have been implemented to provide immediate protection of Human Health and the Environment at the site. In response to an October 28, 1992, inquiry by the Johnson County Health Department, two private wells located in the potentially impacted area were identified, but these wells were not used as a drinking water source. Residents in the potentially impacted area are supplied by a commercial water supply system which draws water from wells located upgradient of the facility.

A groundwater recovery system consisting of three on site recovery wells and a groundwater treatment system became operational in February 1995. The treatment system removes VOCs through an air stripping process and the treated water is discharged to the Franklin sewer system as permitted by the city. The VOCs stripped from the groundwater are discharged to the atmosphere at a rate below that requiring a permit by the State of Indiana.

SUMMARY OF ALTERNATIVES

The Corrective Measures Report developed by FPP/Amphenol partitioned the site into three operable areas (Operable Areas 1,2, and 3) for evaluation of alternative remedies. The three operable areas are delineated in Figure 5-1 (see Attachment A). Operable Area 1 is the impacted area lying within the facility property boundary; Operable Area 2 is the area adjacent to the storm drain; and Operable Area 3 is the contaminated area at Forsythe street and Hamilton Avenue. Six principal alternatives actions were discussed in the CMS Report.

Alternative 1 - No Action
This alternative was provided as a basis for comparison for the

Costs

Capital \$182,000 5 years operation 505,000 Total 687,000

Alternative 4 - Institutional controls; monitoring; groundwater extraction; and soil excavation with aeration and backfilling. This Alternative includes operation of the recovery system and excavation of severely impacted soils near the old sanitary sewer. An area extending about 25 by 50 feet is proposed for excavation. The contaminated soils would be placed on-site in windrows and aerated by tilling. Following sufficient reduction of contaminants, the excavated area would be backfilled with the treated soil. Excavation likely would extend below the water table requiring dewatering and treatment of the pumped groundwater.

Costs

Capital \$125,000 5 years operation 300,000 Total 425,000

Alternative 4A - Alternate 4 is modified by off-site disposal of contaminated soil instead of on-site treatment.

Costs

Capital \$1,347,000 5 years operation 300,000 1,647,000

Alternative 5 - Institutional controls; monitoring; groundwater extraction; and focused sparging/SVE.

This Alternative incorporates groundwater recovery and a focused sparging/SVE system. The sparge/SVE system would be limited to the severely impacted area at the old sanitary sewer and have the same configuration as depicted in Figure 5-4. Treatment of offgas from the SVE system would likely not be required because of the reduced amount of VOC gas generated.

Costs

Capital \$119,000 5 years operation 475,000 Total 594,000

Alternate 6 - Institutional controls; monitoring; groundwater water recovery with additional water treatment by carbon adsorption; and reinjection of treated water.

This Alternative incorporates groundwater recovery with

implementing the remedial action; and

- time required to meet the remedial response objectives.
- 2. Long-Term Reliability and Effectiveness This evaluation criterion addresses the results of a remedial alternative in terms of the risks remaining to human health and the environment at the site after remediation goals have been met. The following factors characterize the potential risks remaining at the site following completion of the implementation:
 - the magnitude of potential risk remaining due to treated waste of treatment residuals following the completion of the remedial alternative; and
 - the adequacy and reliability of controls that are used to manage untreated wastes or treatment residuals remaining at the site.
- 3. Implementability this criterion refers to the ease of implementation and the following factors are taken into consideration:
 - ability to construct and operate the technology;
 - reliability of the technology;
 - ease of undertaking additional corrective measures if necessary;
 - ability to monitor effectiveness of remedy;
 - coordination with other agencies;
 - availability of off-site treatment, storage and disposal services; and
 - availability of prospective technologies.
- 4. Reduction of Mobility, Toxicity, or Volume of Wastes or Contaminants. This evaluation criterion assesses the level to which the remedial alternative reduces the potential toxicity, mobility, or volume of wastes or contaminants based on the following factors:
 - treatment process used and materials treated;
 - amount of hazardous materials destroyed or treated;
 - degree of expected reductions in toxicity, mobility, or volume;
 - degree to which treatment is irreversible; and
 - type and quantity of residuals remaining after treatment.

As to the time needed to achieve remedial objectives, Alternative 3, which includes the expanded sparging/SVE system and provides the most expansive remediation of the site will obtain overall remedial objectives in the least time.

- 2. Long term Reliability and Effectiveness
 Alternatives 4, 4A, 5, and 6 will have minimal impact on the
 western portion of the facility, consequently these alternatives
 would leave a higher level of residual contamination at this part
 of the facility. Alternatives 4 and 4A, by removal of
 contaminated soil at the most severely impacted area near the
 sanitary sewer would result in the least residual contamination
 in this area, but would not provide significant contaminant
 reduction at the western portion of the facility. Alternative 3,
 which includes the expanded sparge/SVE system that extends to the
 western edge of the contaminated area, would leave the least
 overall residual contamination and provide the best control of
 contaminant migration and long term effectiveness.
- 3. Implementability
 Alternative 1 which prescribes no action, Alternative 2 with institution controls and monitoring, and Alternative 2A, which adds the operation of the existing recovery system, do not pose any implementation difficulties. The sparge/SVE systems of Alternatives 3 and 5 can be readily installed. Alternatives 4 and 4A, which may require special construction features to maintain excavation side walls, presents greater implementation difficulties. Implementation of the reinjection system will require balancing groundwater withdrawal and reinjection to the aquifer and has considerable potential for operational problems. Though the sparge/SVE systems are expected to require considerable preliminary testing and development, Alternative 3 and 5 are considered to have a higher degree of Implementability than Alternatives 4, 4A and 6.

The reliability, availability, ease of which the corrective measure can be expanded, and the ability to monitor the results, are generally comparable for the technologies evaluated. Both sparge/SVE and recovery/treatment systems are widely applied technologies, can be expanded as space permits, and can be readily monitored to evaluate the effectiveness of the systems. The reinjection alternative may be less reliable in that injection wells may become clogged and pumping systems may breakdown. Providing that excavation walls are maintained, Alternative 4 and 4A would be highly reliable in that a major portion of contaminated soil would be eliminated.

regulations. Alternative 3 provides the greatest control of reducing remaining contamination resulting from past releases.

Comply with Standards for Management of Wastes The activities discussed in all alternatives provide for adequate management of wastes handled or generated during implementation of the corrective measure. A Water Pollution Control Facility Construction Permit was granted by the State for installation of the groundwater recovery treatment system; the system discharges VOCs to the atmosphere at rates allowed by the State. was granted by the City of Franklin to discharge the treated water to the municipal sanitary sewer system. Monthly monitoring of VOCs in the treated effluent was initially required which may eventually by modified to quarterly monitoring. Data indicates that the levels of toxic metals in the treated water discharged to the city sewer/water treatment system are below drinking water standards. Discharge of VOCs to the atmosphere by the sparge/SVE systems would be controlled as needed to meet State standards. Treatment of excavated soil by placing the soils containing volatile compounds in windrows may require a State permit. Off-site disposal of excavated soil must be performed in accordance with RCRA regulations.

PROPOSED REMEDY

Alternative 3 which includes institutional controls, monitoring, the expanded sparge/SVE system combined with an on-site groundwater recovery system, is deemed to best satisfy the nine criteria noted above and is the remedy proposed by U.S. EPA. The configuration of the sparging/SVE system and the existing groundwater recovery system is shown in Figure 5-4 (see Attachment A). The incorporation of the expanded sparge/SVE system is in keeping with Agency policy. Agency policy is that groundwater be restored to the extent practicable, and that soils that act as contaminant feed source to groundwater be treated so as to minimize this effect.

Operation of the groundwater recovery system will lower the water table at the storm sewer and when operated to maximum capacity will essentially eliminate discharge of contaminated water to Hurricane Creek. The groundwater recovery system will capture the major part of the contaminant plume of groundwater containing VOCs and any toxic metals exceeding limits, and act as a barrier to downgradient migration. Though site conditions may not be ideal for a sparge/SVE system, this technology is perceived as the way to augment the groundwater recovery system. The expanded version of the sparge/SVE system will provide expansive remediation of soil and ground water at the site. Non-aqueous phase liquids, if extensive in subsurface, may

corrective measures proposed for Operable Area 3. Proposed remedial activities for this area are limited to institutional controls and monitoring due to the serious restrictions that would be encountered in implementing an effective remedy at this location. The long and relatively narrow band of contamination in the thin water bearing zone likely could best be remediated by a lateral drainage system (horizontal collector wells) placed parallel to the roadway; or by a vacuum driven well point system of numerous closely spaced small diameter wells similar to that used in dewatering operations. Operation of these systems would likely achieve relatively rapid and uniform reduction of groundwater contaminants at this location. However, construction of lateral drainage systems, recovery wells and sparge/SVE systems would be highly invasive to the neighborhood. Further, operation of all of these technologies require pipeline construction which creates a high potential for damage to the utility supply lines leading to residential homes. Therefore, monitoring of groundwater coupled with institutional controls is deemed the most appropriate remedy for the Forsythe Street area.

The monitoring program for Operable Area 3 Forsythe Street includes the installation of an additional well screened in the deep aquifer (Unit D) at Forsythe Street. If monitoring data indicates significant contaminant concentration increase or migration, corrective measures to remove or contain the contamination will be given further consideration. Since the contaminant source input has been essentially eliminated at this area, contaminant concentrations are expected to decline over time.

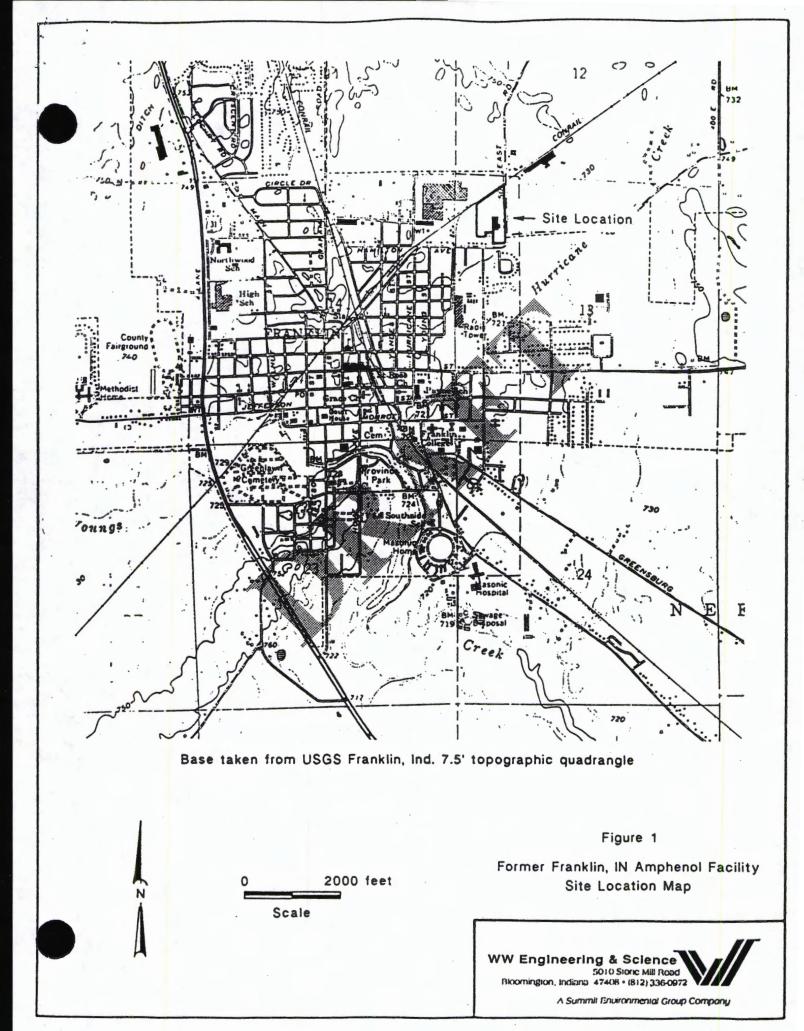
FUTURE CORRECTIVE ACTION

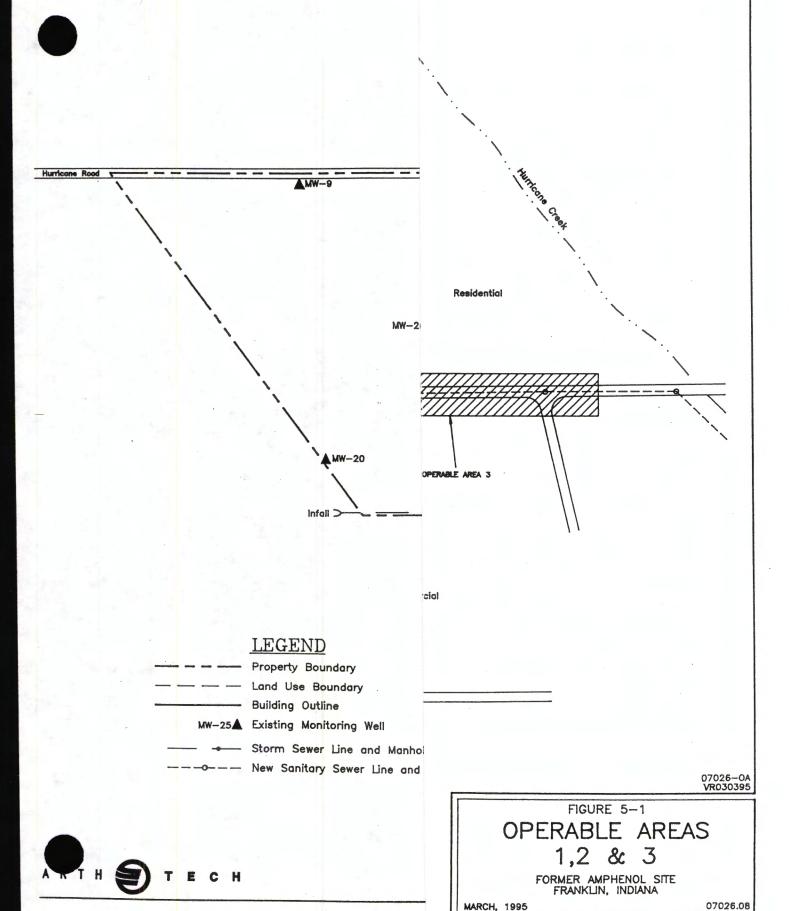
Pursuant to the Administrative Order on Consent under which the RFI and CMS were performed, a new Administrative Order on Consent will be developed following the final selection of the remedy by U.S. EPA. Under this new Order, corrective measure design details, monitoring program specifics, and cleanup standards will be established.

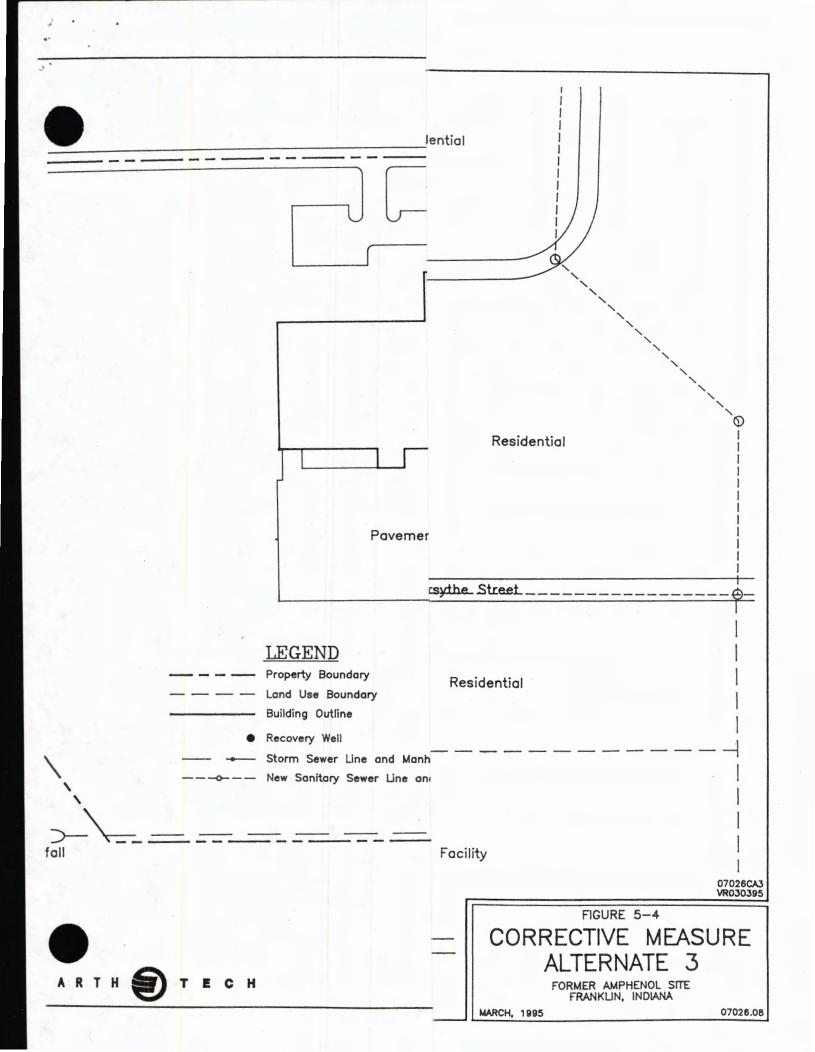
PUBLIC PARTICIPATION

U.S. EPA solicits input from the community on the cleanup methods proposed for each of the corrective measure alternatives discussed and also invites the public to comment on alternatives not addressed in this Statement of Basis. The public comment period will be extended for fourty five days, and if requested

ATTACHMENT A FIGURES







Infall > mmercial **LEGEND** Property Boundary Land Use Boundary **Building Outline** MW-25▲ Existing Monitoring Well Storm Sewer Line and M New Sanitary Sewer Line 07026-0A VR030395 FIGURE 5-1 OPERABLE AREAS 1,2 & 3

FORMER AMPHENOL SITE FRANKLIN, INDIANA

07026.08

MARCH, 1995

ATTACHMENT B TABLES

Table 4 Summary of Risk and Hazard Calculations for the Former Amphenol Site

स्वयाग्रह्म	ALADULT (LONG TERM)	Sie Seelie	95% UCL	BACKGROUND	MAXIMUM
Matrix	Route	Risk	Hazard	Risk	Hazard
SOIL	Ingestion	9E-06	9E-02	1E-05	7E-02
	Dermal	2E-06	4E-02	2E-06	5E-02
	Inhalation	8E-07	1E-02	1E-06	1E-02
Total		1E-05	1E-01	1E-05	1E-01
8					100
elesidevi i	AL CHILD (SHORT TERM)	STE-SPECIFIC	95% UCL	BACKGROUND	MANIMUM N
Matrix	Route	Risk	Hazard	Risk	Hazard
SOIL	Ingestion	2E-05	6E-01	2E-05	4E-01
	Dermal	7E-07	5E-02	6E-07	7E-02
	Inhalation	8E-07	4E-02	9E-07	6E-02
Total		2E-05	7E-01	2E-05	6E-01
	AL ADULT (LONG TERM)	SITE SPECIFIC	***************************************		***************************************
Matrix	Route	Risk	Hazard	BACKCROUND Risk	
SOIL	Ingestion	1E-05	3E-01	1E-05	Hazard 7E-02
SOIL	Dermal	3E-06	1E-01	2E-06	
	Inhalation	1E-06	2E-02	1E-06	5E-02
	mnalation		2E-02	15-06	1E-02
Total		2E-05	4E-01	1E-05	1E-01
IOIAI		2E-05	46-01	IE-05	15-01
DESTRUKT	IAL CHILD (SHORT TERM)	SITE-SPECIFIC	* SERVERE IN	BACKGROUND	SACVISALISA
Matrix	Route	Risk	Hazard	Risk	Hazard
SOIL	Ingestion	3E-05	1E+00	2E-05	4E-01
JOIL	Dermal	1E-06	1E-01	6E+07	7E-02
	Inhalation	1E-06	9E-02	9E-07	6E-02
	IIIIalation	12-001	96-02	95-07	0E-02
Total		3E-05	1E+00	2E-05	6E-01
Total		0L-051	12400		
	IAL ADULT (LONG TERM)	SITE-SPECIFIC	AVERAGE	STACK CHOLLINIE	AVERAGE
Matrix	Route	Risk	Hazard	Risk	Hazard
SOIL	Ingestion	6E-07	2E-02	9E-07	2E-02
	Dermal	1E-07	1E-02	2E-07	2E-02
	Inhalation	6E-08	4E-03	1E-07	5E-03
Total		8E-07	4E-02	1E-06	4E-02
	IAL CHILD (SHORT TERM)	SITE-SPECIFIC		BACKGROUND	AVERAGE
Matrix	Route	Risk	Hazard	Risk	Hazard
SOIL	Ingestion	3E-06	1E-01	5E-06	1E-01
	Dermai	2E-07	1E-02	2E-07	3E-02
	Inhalation	2E-07	2E-02	3E-07	2E-07
Total		4E-06	2E-01	6E-06	2E-0

U.S. EPA will hold a public meeting in Franklin, Indiana to discuss the alternatives.

The Administrative Record for the FPP/Amphenol facility is available at the following locations:

Johnson County Library 401 State Street Franklin, Indiana 46131

U.S. EPA, Region 5
Waste, Pesticides and Toxics Division Record Center
77 West Jackson Boulevard, 7th Floor
Chicago, Illinois 60604
(312) 353-5821
Hours: Mon-Fri, 8 a.m. - 4p.m.

After consideration of the comments received, U.S. EPA will summarize the comments and its responses to the comments, select and document the remedial selection in a Response to Comments (RTC). The RTC will be incorporated into the Administrative Record. To send written comments or obtain further information, contact:

David Novak
Community Relations Coordinator
U.S. Environmental Protection Agency
77 West Jackson Boulevard, P-19J
Chicago, Illinois 60604
(312) 886-8963

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Samuel S. Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut

Re: Administrative Order on Consent (Dated November 27, 1990) Franklin Power Products/Amphenol IND 044 587 848

Dear Mr. Waldo:

The United States Environmental Protection Agency (U.S. EPA) is in receipt of your letter of January 28, 1997, which rejects many of the conditions of U.S. EPA's letter of January 15, 1997.

Your January 28, 1997, letter raises several issues pertaining to the On-site Recovery System Evaluation Workplan and questions U.S. EPA's authority for calling for the development of such evaluation workplan at this time. U.S. EPA has repeatedly requested that Amphenol provide an assessment of the groundwater recovery system's effectiveness. Amphenol's responses to these requests have been vague with only minimal data provided. data provided by Amphenol however, indicates that the groundwater recovery system is not sufficiently effective in reducing the discharge of contaminated groundwater to Hurricane Creek. U.S. EPA recognizes that installation of the on-site recovery system was not required as an Interim Corrective Measure by the above referenced Administrative Order on Consent (AOC) and was voluntarily installed by Respondents. However, the recovery system is proposed as a component of corrective measures and may provide significant environmental protection by minimizing the discharge of contaminated water to Hurricane Creek. therefore necessary that operation of the existing system be evaluated and optimized. Calling for implementation of a groundwater recovery system evaluation workplan at this time is reasonable, appropriate and consistent with the AOC.

Your January letter also raises the issue of U.S. EPA's approval condition for the Recovery System Evaluation Workplan which

rather provides additional control and an appropriate safety net for a facility where extensive contamination exists. Further, the implementation of such deed restriction is a separate action which is not contingent upon any other institutional control.

Your letter also stated that Franklin Power Products, the co-Respondent, is the owner of the subject facility and therefore initiation of a deed restriction is not the responsibility of Amphenol. However, you have long asserted your responsibility for the corrective action process. Unless it is adequately demonstrated that a deed restriction of the nature discussed is not implementable, such deed restriction shall be promptly initiated by Respondents.

Your January 1997, letter requests that the time to submit a report for the Recovery System Evaluation Workplan be extended to 100 days to provide time to solicit bids and select a contractor. U.S. EPA questions the need for an extensive time period to solicit bids for installation of shallow wells. Nevertheless, the time to submit a report for the Evaluation Workplan is extended. The report for the Recovery System Evaluation Workplan shall be submitted within 100 days of the date of receipt of this letter.

Most significantly, your January letter advises that due to unresolved issues, Amphenol will not proceed with field activities until the issues are resolved. We find it unfortunate that Amphenol has refused to proceed with reasonable and appropriate requests that are consistent with the AOC; it demonstrates a recalcitrant attitude by Amphenol. The above requirements are highly appropriate for the corrective action process and within the purview of the AOC.

Failure to submit a timely report for the Recovery System Evaluation Workplan (including installation of the additional piezometer), the monthly progress reports as specified, or demonstrate a timely effort to enact a facility deed restriction, will be considered to be violations of the AOC.

Amphenol

henol Corporation

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900 JAN 0 6 1996

DIVISION FRONT OFFICE
Waste, Pesticides & Toxics Division
U.S. EPA – REGION 5

D.3.1

January 2, 1997

Mr. William Buller
Enforcement and Compliance Assurance Branch
Waste, Pesticides and Toxics Division, MI/WI Section
US EPA, Region 5 DRE-8J
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Future Land Use Considerations
Franklin Power Products/ Amphenol Corporation
IND 044 587 848

Dear Mr. Buller:

In your undated letter, received on December 16,1996, ac project, you requested that Amphenol and Franklin Power P information pertaining to land use as prescribed by USEPA (Use in the CERCLA Remedy Selection Process."

While we believe that the main focus of this document is to a use planning during the development of an RI/FS or RFI/CN of remedial action objectives, we have reviewed the docu officials to determine if the proposed corrective measures in land uses for the former Amphenol site.

I have attached a letter report from our consultants, Earth solicit available land use planning information, as well as consum and surrounding areas. Based on our review, the former Amp to potential land uses that might conflict with the corrective



I trust that the attached will satisfy your concerns. I would suggest that if you have any specific questions regarding zoning issues, you contact the City of Franklin planning office directly (a phone number is included in the report). If you have any questions regarding Franklin Power Products' plans for the property or any other questions of a more general nature, please let me know.

Mal.

Samuel S. Waldo

Director, Environmental Affairs

cc: J. Michael Jarvis - Franklin Power Products

Michael Sickles - IDEM

J. Keith (w/o encl)



December 19, 1996

Mr. Sam Waldo Director, Environmental Affairs Amphenol Corporation 358 Hall Avenue Wallingford, CT 06492

Dear Sam:

Subj: Response to OSWER Directive No. 9355.7-04, Land Use in the CERCLA remedy Selection Process

We recently received from you a copy of the OSWER directive referenced above. EPA region V has indicated that it needs to know the "reasonably anticipated future land use" for the former Amphenol site to provide information needed to make remedy selection decisions for the site. The directive primarily deals with remedy selection procedures under CERCLA, but gathering information from local land use authorities and other locally affected parties is also appropriate in the RCRA context.

Larry Light, Vice President of Franklin Power Products, was contacted by telephone on December 10, 1996 and asked what future uses Franklin Power Products intends for the former Amphenol site. Mr. Light stated that Franklin Power Products will keep the property in industrial use according to both their 5- and 10-year business plans.

Chris Jackson, Assistant Planner for the City of Franklin (317-736-3631), was contacted by telephone about property zoning. Atttached to this letter are a Xerox copy of the Franklin City zoning map showing the former Amphenol site and surrounding land, a key to the zones, and a table showing permitted uses for each zone. I have added the boundary line around the property, and have labeled Forsythe Street, Hamilton Avenue and Hurricane Creek.

The site is zoned I2, heavy industrial. According to the table, I2 is not permitted for residential use. It is suitable for:

- Agricultural use (except for lakes of 3 or more acres)
- Public facilities including airports, government offices, police or fire stations, landfills, parking areas, railroad right-of-way and utility substations and transmission lines
- Miscellaneous business uses including commercial breeding facilities, kennels, outdoor advertising, warehousing, wholesaling businesses, a RV park, or a veterinary hospital

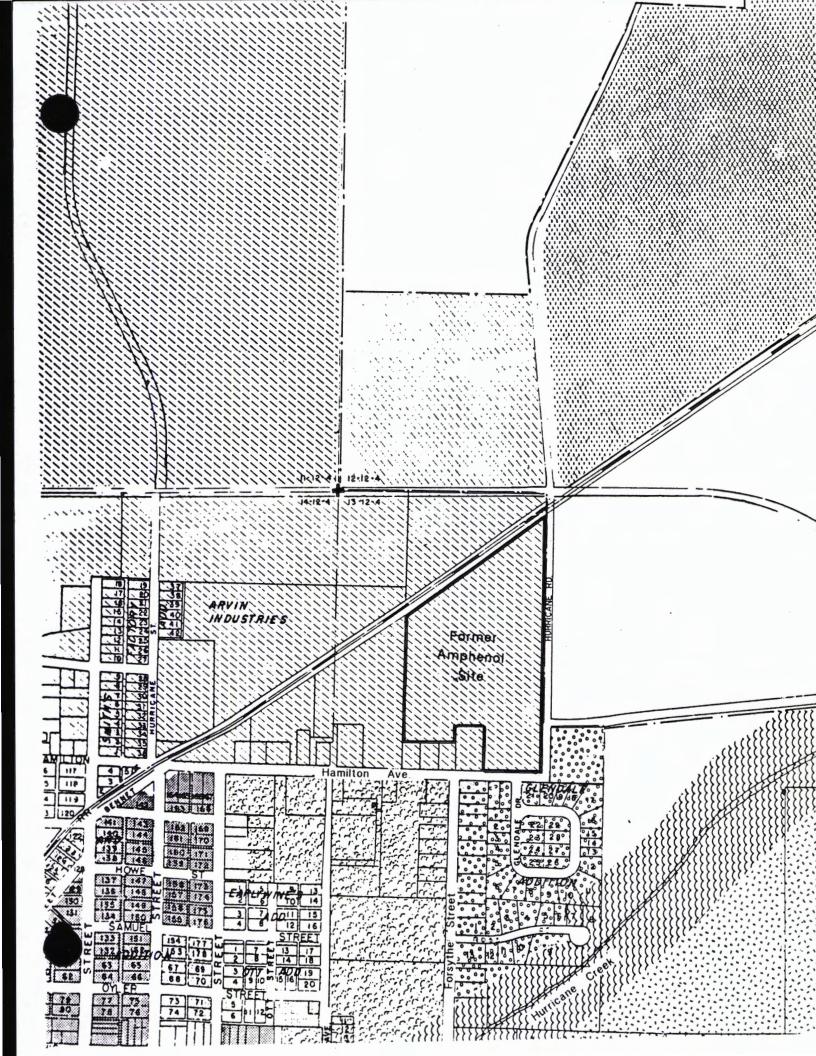
Based upon the information we have gathered, the former Amphenol site does not appear to be subject to potential land uses that might conflict with corrective measures proposed for the former Amphenol site.

If you have any questions, please get in touch with me.

Very truly yours, EARTH TECH. James H. Keith Telephone 812.336.0972

Facsimile

812.336.3991



ニュレーフーイン

JULY 1986

REVISED:

PREPARED BY: FRANKLIN ENGINEERING COMPANY

FLOOD PLAIN]]]]]]]]]]]
RESIDENTIAL	
RESIDENTIAL	\$20%25.00.50 25%25.00.00
BUSINESS	
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INDUSTRIAL	
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RECREATIONAL	
PLANNED UNIT	
DEVELOPMENT	
	RESIDENTIAL RESIDENTIAL RESIDENTIAL RESIDENTIAL RESIDENTIAL RESIDENTIAL BUSINESS BUSINESS BUSINESS BUSINESS INDUSTRIAL INDUSTRIAL RECREATIONAL SHOPPING CENTER MANUFACTURED HOME

2000

TABLE 1 - USE TABLES

			-	DIST	FIC	TS II	NW	HICI	1 US	ES	ARE	PE	IMF	TEL)		
PRINCIPAL USES		Permitted use X Special Exception S															
	R1	F12	R3	184	F16	116	H7	MH	CB	LB	GBI	GB2	SC	8-1	1-2	NEC	FP
ED AND BREAKFAST IN19						8				8			_	_	_	-	_
WELLINO, SINGLE-FAMILY '	X	X	X	X	×	X	X			X	×	×				X	
WELLING, TWO-FANLY							×			X	×	×			-		
WELLING, MULTI-FANILY .							X		X2	×	×	×					
idme for the aged										X	×	×					
AANNFACTURED NOME	X	X	X	X	X	X	×	X		X	X	×					
AOBILE NOME								×									
INFISING (ICIAE										K	×	X					
PRIVATE BWIMMING POOL	X	×	X	X	×	X	×	X		X	×	X				X	
nesidential facilities 1	×	×	X	×	. X	X	×	X.		X	X	X				X	
CHILD CARE HOME	8		8		8		8	8									
HEROTE PROPERTY OF THE PROPERT			_			_			_	_					_	_	_
AGRICULTURAL USES - JAK	-	<u> -</u>	-	-	 _	- <u>-</u> -	 -	-	-	1-				-	-	- X	-
ARTIFICIAL LAKE OF 3 ON MORE ACRES 4	×	X	X	×	X	X	×		-		-	-	-	-		-	-
COMMERCIAL GREEDHOUSE	_	<u> -</u>	·	 	-	-	-	-	 	 	X	×	-	X	X	K	-
EXISTING FARM & RELATED LIGES	×	×	×	×	X	×	X	-	-	X	1- *	X	X	1 x	1- *	-	-
GHEENIOUSE Plot Exceeding 1,000sq (t.)	-	-	-	-	 	 	-	-	1-	 - -	1-		·	1-î	-\ - -	-	-
PLANT NUMBERY POLE BARN OR POLE STRUCTURE *	K	X	X	X	\ <u>_</u>	-	-	-\-	1-	-	-	\ <u>^</u>	-		-\- <u>-</u>		-1-
	-	-	-		X	-_X	-\- <u>*</u>	-	-	-\	-	X	-	×	- - 	_	- -
Other Similar Uses	-\-	- -	-	-	-	-	-		-	-	-	 -	-	-		-	- -
	-	-	-	-	-	- -	-\-	- -	-	-	-	-		-	-		- -
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				- -	- -	- -					-1		- -	-1-	-1-	-1-	

TABLE 1 - USE TABLES

		DISTRICTS IN WHICH USES ARE PERMITTED															
PRINCIPAL USES						Permit	ted use	×		Spe	clai Ex	ceptlor	8				
		R2	R3	R4	R5	R6	A7	МН	CB	LB	GB1	GB2	SC	1-1	1-2	REC	FP
INDUSTRIAL USES:																	
BOTTLED GAS STORAGE AND DISTRIBUTION															X		
INDUSTRIAL PARK OR RESEARCH CENTER														X	X		
INDUSTRY, GENERAL															×		
INDUSTRY, LIGHT														×	×		
JUHK YARD															×		
LIQUID FERTILIZER & DISTRIBUTION (Commercial)															×		
MANUFACTURING, STORAGE, OR USE OF EXPLOSIVES															×		
MINERAL EXTRACTION, BORROW PIT, TOP SOIL, REMOVAL AND STORAGE AREAS															×		
PETROLEUM TANK FARM (Commercial)											1				X		
RADIO OR TELEVISION TOWERS						•									×		
SCRAP METAL YARD															X		
TRUCK FREIGHT TERMINAL														X	×	_	
Other Similar thes															×		
	-	-		-	_	-	_	-			-	-	-	-		1	
PUBLIC FACILITIES			_		_		_	_		_		_	_	-		-	-
AIRPORT OR HEUPORT	-	-	-	-	-	-	_	-	-	-	-	-	-		×		
CHURCH OR TEMPLE	K	X	X	×	×	X	×	X		X	X	×					
GOVERNMENTAL OFFICES									×	X	X	X		X	X		
CHILD CARE CENTER									1	×	×	X					
POLICE STATION OR FIRE STATION	1		1	1			1		×	×	X	X		×	K		
PUBLIC LIBRARY OR MUSEUM		1			×	×	×	X	×	X	×	×		×		X	
PUBLIC OR COMMERCIAL BANITARY LANDFILL, REFUSE DUMP OR GARBAGE DISPOSAL PLANT															8		

TABLE 1 - USE TABLES

		DISTRICTS IN WHICH USES ARE PERMITTED															
PRINCIPAL USES			Permitted use X Special Exception S														
·.	RI	R2	ПЗ	R4	ЯБ	R6	A7	МН	CB	LB	GB1	GB2	SC	1-1	1-2	REC	FP
PUBLIC FACILITIES (Continued)																	
PUBLIC OR EMPLOYEE PARKING AREA								×	×	X	×	X	×	×	×	X	×
PUBLIC PARK OR RECREATIONAL FACILITY	×	X	X	×	X	×	X	X	X	×	X	×		X		×	×
RAILROAD RIGHT-OF-WAY & NECESSARY USES									×	X	X	×	×	X	×		
SCHOOL, PUBLIC OR PAROCHIAL OFFERING																	
GENERAL EDUCATION	x	×	×	×	X	×	×	×		×	×	×		×		×	
TELEPHONE SWITCHING STATION; UTILITY SUBSTATION	6	8	8	S	S	S	S	X	X	X	X	X		X	×		×
TRADE OR BUSINESS SCHOOL										X	X	X	X	×			
TRANSMISSION LINES FOR GAS, OIL, ELECTRICTY OR OTHER UTALITIES											×	×		x	×		×
UNIVERSITY OR COLLEGE										×	X	X			×		
: Business Use: Appliances: " The State of t																	
ELECTRIC APPLIANCE SALES AND SERVICE	-	-	-	-	-		-	-	×	×	×	×	×	×			上
RADIO AND TV SALES AND SERVICE		_			_			_	×	×	X	×	×	X	_	-	-
Other Similar Uses	_								X	×	X	x	x	×		=	=
BUSINESS USES AUTOMOBILE SERVICES															上		
AUTOMOBILE BODY SHOP (FULLY ENCLOSED)	_	-	-	-	-	-	-	-	-		×	×		×			上
AUTOMOBILE REPAIR (Fully Enclosed)											X	×		X			
AUTOMOBILE GALES AREA, OPEN												X		X			
AUTOMOBILE SALES ROOM		1		1								×		×			
AUTOWASH			1	1							×	X					_
FILLING OR SERVICE STATION		1		1	1	T	1	1			X	X	X	×			

TABLE 1 - USE TABLES

	DISTRICTS IN WHICH USES ARE PERMITTED																	
PRINCIPAL USES				Permitted use X Special Exception S														
	R1	R2	R3	R4	R5	R6	R7	MH	CB	LB	GB1	GB2	SC	1-1	1-2	REC	FP	
BUSINESS USES: AUTOMOBILE SERVICES (Comfinued)																		
MOBILE HOME SALES AREA, OPEN								×			X	×		×				
PUBLIC PARKING AREA									X	X	х	X	×	X	X	X	×	
PUBLIC PARKING GARAGE									X	×	×	X	X	X				
TRAVEL TRAILER SALES AREA, OPEN												X		×				
Other Similar Vees												×		X				
BUSINESS USES : CLOTHING SERVICES																		
DRESSMAKING SHOP			_			_			×	×	×	ж	ж					
DRYCLEANING ESTABLISHMENT									K	X	×	X	X					
FABRIC SHOP									X	X	×	×	X					
LAUNDRY AGENCY									X	X	X	X	X					
MILLINERY SHOP									×	X	X	X	X					
SELF-SERVICE LAUNDRY									X	×	X	X	X					
SHOE REPAIR SHOP									X	X	X	X	×					
TALLOR REPAIR SHOP		_			_				×	X	×	×	X			_		
Other Shrillar Uses									Х	×	х	×	X.					
BUSINESS USES: FOOD SALES & BERVICES																		
BAKERY RETAIL	_	-	-	-	_	-		-	×	×	×	×	×	-	-	-		
DAIRY RETAIL									×	×	X	×	×					
DELICATESSAN									х	×	×	X	×					
DRIVE-IN				1			1				X	×	×	_				

TABLE 1 - USE TABLES

PRINCIPAL USES	DISTRICTS IN WHICH USES ARE PERMITTED																
	Permitted use X Special Exception &																
	R1	R2	R3	R4	R5	R6	R7	МН	СВ	LB	GB1	GB2	SC	1-1	1-2	REC	FP
DUSINESS USES FOOD SALES & SERVICES (Gondinued)																	
GROCERY										×	×	×	X				
LOCKER, COLD STORAGE, FOR INDIVIDUAL USE										X	×	X					
MEAT MARKET										X	×	X					
RESTAURANT									×	X	×	X	X				
ROADSIDE FOOD SALES STAND											×	X					
SUPERMARKET									X	X	X	X	X				
WIFOLESALE PRODUCE TERMINAL			_					_			×	X		X			
Other Similar Uses											×	×		×			
HUSINESS USES: GENERAL BUSINESS ***																	
BANK									×	×	х	×	x	×			
BUSINESS OR PROFESSIONAL OFFICE									X	X	×	X	X	X			_
POST OFFICE									X	X	×	X	×	×			_
TELEGRAPH OFFICE		_			-	_	_		X	X	X	X	×	×	-	-	-
Other Similar Uses									×	X	x	X	×	X			
**** BUSINESS USES; PERSONAL SERVICES	-	-	-	-	-	-	-	-	-	-		-	-	-	-	+	
man and the second seco																	匚
BARBER SHOP	_	1_	-	-	1_		-	-	X	X	X	X	X	-	-	-	-
BEAUTY SHOP			_	-		_	_	-	X	×	X	X	×	-	-		-
REDUCING SALON	-	-	-	-	-	-	-	-	×	×	×	X	×	-	-	+	1-
Other Similar Uses	1-	-	1	-	1	-	1	1	X	×	X	X	X				1

^{*} Permitted in the CB, LB, GB-1, and GD-2 Districts as of 11/28/94

TABLE 1-USE TABLES

		TAB	LE I -	USE	TABL	ES											
	DISTRICTS IN WHICH USES ARE PERMITTED																
PRINCIPAL USES	Permitted use X Special Exception 8																
	RI	FI2	A3	FI4	R5	R6	A7	МН	СВ	LB	GB1	GB2	SC	1-1	1-2	REC	FP
(Continued)																	
JEWELRY STORE									X	X	X	X	X				
NEWSDEALER									X	×	×	X	X				
RECORD SHOP									X	×	×	X	X				
RETAIL SHOWROOM									X	X	X	×	X				
STATIONERY STORE									X	X	×	×	X				
VARIETY STORE									X	X	×	X	X				_
Other Similar Usea									×	×	×	х	X	-			
TO BUSINESS USES) MISCELLANEOUS **											_						
BOAT BALES, SERVICE AND STORAGE	-	-	-	-	-	_	-	-	-		-	X	_	X		×	X
CEMETERY OR CREMATORIUM												X					×
CLINIC									X	×	×	X	X	X			
COMMERCIAL FACILITY FOR BREEDING AND RAISING NONFARM FOWL AND ANIMALS															×		
FARM EQUIPMENT, SALES AND SERVICE						_						×		×			
FUNERAL HOME OR MORTUARY										X	X	×		X			
HOSPITAL.											X	X		X			
HOTEL OR MOTEL					1					×	×	X		X			
KENNEL		1													X		
MOBILE HOME PARK						1		X	1								
DN-PREMISE ADVERTISING SIGN									×	×	×	X	X	X	X		X
PHOTOGRAPHIC STUDIO				1					X	×	×	X	×	X			
RAILWAY STATION OR MOTORBUS STATION										×	×	×	×				
													1				

	DISTRICTS IN WHICH USES ARE PERMITTED																	
PRINCIPAL USES	Permitted use X Special Exception 8																	
	R1	R2	R3	R4	R5	Re	R7	МН	СВ	LB	GB1	GB2	SC	1-1	1-2	REC	FI	
THE WEST SEEL MISCE TAXED IS NOT THE																		
HECHEATIONAL VEHICLE PARK								×			X	×		×	×			
SALES BARN FOR LIVESTOCK RESALE	_					_									X			
VETERINARY NOSPITAL FOR SMALL AHIMALB				_		_						X		×	×			
WAREHOUSE							_							X	X			
WHOLESALE BIISINESS										X	X	×		X	×			

- in established residential neighborhoods in I-1 and I-2 industrial Districts, single-family dwellings and customary residential accessory structures shall be permitted, provided that all of the lot, area, density, and other zoning requirements of the highest density residential zoning classification are met. (11/28/94)
- Said multi-family dwelling units (apartments) shall only be permitted in the CB, Central Business, District on upper floors above retail, professional, and service businesses which occupy the ground floor of any such buildings. (6/28/93)
- As special dwelling uses per Section 3.3 of this Ordinance.
- 4 in residential areas only, allowed for drainage purposes only, as determined by the Plan Commission.
- Pole barns and pole structures are only permitted in the R-1 through R-7 residential districts where such lots in said residential districts meet the definition of an Existing Farm and Related Uses, as defined in this Ordinance. (11/9/92)
- * Uses must conform to Franklin Municipal Code Requirements for ficensing, tocation, and fees for billiard pariors.

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Amphenol





OFFICE OF RCRA WASTE MANAGEMENT DIVISION EPA. REGION 7

March 26, 1996

Mr. Paul Little (DRE-8J)
Chief, Waste, Pesticides and Toxics Division
Enforcement and Compliance Assurance Branch
USEPA, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Administrative Order on Consent (AOC) dated November 27,1990
Franklin Power Products/Amphenol Corporation
Franklin, IN
IND 044 587 848

Dear Mr. Little:

Your March 12, 1996 letter approving our February 9, 1996 Work Plan with modifications was received on March 18, 1996. We are proceeding to implement the Work Plan in accordance with the schedule contained therein. Project status will be discussed in the monthly progress reports although, should unforeseen problems arise, your office will be advised immediately.

Your letter requested that an alternative plan to the June 1994 Work Plan be submitted concurrently with our submittal of the revised CMS report. We believe that some of the work proposed for the supplemental activity now underway would address most, if not all of the questions regarding conditions in Hurricane Creek. Notwithstanding that, I expect that the geological and physical data collection activities will occur early enough in the schedule that we will be able to preliminarily evaluate conditions in the creek and determine what, if any, additional measures are needed. I should note, however, that this particular requirement was not discussed prior to receipt of your letter.

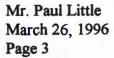
I am also in receipt of the assessment of risks from inorganic soil constituents at the site. While further and more detailed comments may be forthcoming at a later date, some initial comments are provided here.

 The report notes that there may be insufficient data to adequately represent background conditions at the site. I would point out that there were protracted discussions with the EPA regarding the number and placement of background monitoring points. The location and number of samples collected were in accordance with the specific approval of the EPA.

- The assessment of risks report also does not appear to take into account Respondents' statistical evaluation of background vs. site inorganic constituents (contained in a September 22, 1995 letter as Attachment 1 to Responses to U.S. EPA Comments, Draft Report, Corrective Measures Study for the Former Amphenol Facility, Franklin, IN, March, 1995). That evaluation for arsenic, beryllium, cobalt and manganese (i.e., those constituents detected at levels above ARARs) concluded that:
 - 1. Background data for inorganics in background and site soils were lognormally distributed.
 - 2. There were equal variances for upgradient and site values at a 90% confidence level for all inorganic constituents except beryllium.
 - 3. Means of the two data sets were not significantly different at a 95% confidence level using Student's t-Test for all inorganics except beryllium.
 - 4. Since the variance for beryllium values are not equal, the Welch's t-Test was used to evaluate those data sets. The Welch's t-Test determined that the two data sets were not significantly different at a 95% confidence level.

In view of the fact that this analysis was conducted in direct response to an EPA request for further clarification on the presence of inorganic constituents at the site, it should have been provided to the contractor conducting the assessment of risk and should have been specifically discussed in the assessment report.

- The report notes that the use of subsurface samples most often at depths greater than six feet below ground surface (bgs) adds additional uncertainty to the assessment. In fact only three samples of the thirty two collected were less than six feet bgs, most being collected at depths greater than 10 feet. It is my understanding that EPA's own guidance considers it inappropriate to use data from samples taken at or below six feet in a residential exposure assessment. I would appreciate receiving any clarification you may have regarding this issue as well as any EPA guidance regarding the use of residential criteria at an operating manufacturing facility.
- Notwithstanding the above, Table 4 presents risk and hazard calculations which vary only slightly from background risks and which are within ranges generally utilized by EPA. Even as presented, these data do not suggest that inorganic constituents need to be addressed further. The report does not draw any conclusions nor has EPA included its interpretation of the data in the package I received. If such is developed for inclusion in the Final CMS Report package, Respondents should be provided an opportunity to comment.



Please don't hesitate to contact me should you have any questions or comments regarding the above.

Sincerely,

Samuel S. Waldo

Director, Environmental Affairs

cc: J. Michael Jarvis

J. Keith

110.wpd



Mr. William Buller U.S. EPA, Region V, 5HR-12 230 South Dearborn Street Chicago, Illinois 60603

Dear Mr. Buller:

December 16 1992 CEIVED

DEC 18 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

In accordance with our recent telephone conversations, I have revised the SOP for collecting ground water for CLP analysis using a Geoprobe test vehicle. We believe that by utilizing the methods described in the SOP we can achieve accurate, reproducible results at our off-site sampling points. The SOP is attached for your review. If you have any questions, please get in touch with me.

Very truly yours,

James H. Keith Project Manager

cc: Susan Gard Sam Waldo

SOP FOR OFF-SITE GEOPROBE GROUND WATER SAMPLING FOR CLP ANALYSIS FOR THE FORMER AMPHENOL SITE RFI

METHOD DESCRIPTION

In order to avoid placing permanent monitoring wells off-site in the Franklin city right-of-way, ground water samples from the Unit B saturated sand will be recovered through a hollow Geoprobe sampling train inserted to sampling depth by a truck-mounted hydraulic ram. Samples will be analyzed for volatile organic compounds, total metals and total and amenable cyanide as described in the project QAPP approved May 25, 1992. Sample locations and ground elevations will be established by a surveyor and tied into the existing on-site locational grid.

EQUIPMENT

- Truck-mounted Geoprobe ground water sampling system with steel alloy and stainless steel rods
- 2) Screen point ground water sampler
- 3) Stainless steel or Teflon mini-bailer
- 4) Soil sampling point with acetate insert
- 5) Peristaltic pump with battery power supply and Teflon tubing
- 6) Steam cleaner, DI water, Alconox for decontamination

SAMPLING EQUIPMENT AND PROCEDURES

Description of Equipment

The Geoprobe sampler operates by inserting a string of one-inch diameter threaded steel alloy hollow rods vertically into the ground with the aid of a truck-mounted hydraulic ram capable of exerting 15,000 pounds of force. The system has an air hammer attachment to advance the rods into dense or hard materials. Rod sections are three feet long.

Two special sampling points will be used. The first is a soil sampler with two-foot long acetate inserts (Figure 1). The sampler is capable of recovering a soil core up to 24 inches long and 1.5 inches in diameter. The sampler is installed at the bottom of the sampling string and is advanced with the air hammer. After being advanced for two feet, the sampler is withdrawn and the soil sample removed for description. Continuous soil samples can be collected in this manner.

The second point is a screen point ground water sampler (Figure 2). This sampler is installed at the bottom of the sampling string and is advanced hydraulically or by air hammer to the desired sampling depth with decontaminated stainless steel rods. While driving, the point is sealed from outside contamination. At sampling depth, the sampling string is withdrawn two feet, the 0.0057" screen is exposed, and water enters the sampler. The water can then be retrieved to the surface by a Teflon or stainless steel mini-bailer, or pump. The bailers are 7/16" OD and 20 inches long with a ball and seat.

Sampling Procedures

Based upon previous drilling and Geoprobe work, sampling depth is expected to vary between 12 and 22 feet, the depth being controlled by a layer of material (assumed to be the Unit C till layer) that is very difficult to penetrate by hydraulic force alone. The saturated sand unit appears to be only two to three feet thick in the off-site areas previously investigated, and there is expected to be no zonation of contaminants within the saturated unit.

Two Geoprobe holes will be advanced at each sampling location. The first will be advanced using the soil sampler to collect continuous soil samples. Soil samples will be collected, described and measured by a WWES geologist to determine the stratigraphy of

the sample location. Soil samples will be collected until three to five feet of the underlying Unit C till has been penetrated. The location of the saturated sand will be noted and this information will be used to determine the sampling depth for the screen point ground water sampler. Stratigraphic information will be recorded by the geologist for later incorporation into geologic cross sections. Soil samples will be retained and returned to the site for disposal.

Following completion of the first hole, the sampling string will be withdrawn, and the hole backfilled and sealed with bentonite granules. A second hole will be advanced one to three feet away from the first to a depth at which the bottom of the exposed screen will be just below the saturated sand. The sampling rods will be withdrawn two feet to expose the screen.

Water for CLP volatile organic compounds will be collected by a Teflon or stainless steel mini-bailer. Three bailerfuls of water will be collected and discarded into a plastic container for return to the site and disposal, then the water will be sampled. Water collected in this manner is carefully poured from the bailer into the VOA sample containers. Water for metals, and total and amenable cyanide will be collected by means of a portable peristaltic pump and Teflon tubing inserted down the hollow sampling train (Figure 3). Water is pumped directly into the sample containers. The volatile portion of the sample will be collected first followed by metals and cyanide. Ground water samples for metals will have passed through the 0.0057" screen and will not be filtered after collection.

The sampling methods described allow:

 Volatiles samples to be collected without subjecting them to air pressures lower than ambient atmospheric pressure by bailing.

- Sufficient sample quantities for metals and cyanide analysis by peristaltic pumping.
- 3) Stratigraphic measurements which will be used to determine sampling depth, and will also be used to determine off-site stratigraphy.

Following withdrawal of the second tubing train, the hole will be backfilled with bentonite pellets, and a steel rebar stake will be installed flush with the ground at the site of the first (soil sampling) point to permit relocation of the sampling point. Sampling point elevations and coordinates with respect to the existing monitoring well system will be established by survey.

Sampling Locations

See Figure 4. Ground water samples are proposed at four locations: between former Geoprobe locations SGP-6 and SGP-7 (PGP-1), south of GNS-4 (PGP-2), along Forsythe Street south of its intersection with Hamilton Avenue (PGP-3), and adjacent to MW-12 (PGP-4). The latter sample will be used as a check against standard screened well and bailer sampling that will also be conducted at MW-12. To assure that the edge of the plume is being monitored at PGP-3, water samples will be collected at several locations in the vicinity and analyzed using the on-board purge-and-trap GC before selecting the sampling point for the CLP samples.

Sample Ouantities, Containers and Preservation

Each sample for volatile organic compounds will be transferred to two 40-ml VOA vials with Teflon septa, preserved with HCl to pH<2 and cooled to 4° C. Each sample for metals will be transferred unfiltered into a one liter polyethylene bottle, preserved with HNO₃ to pH<2 and cooled to 4° C. Each sample for total and amenable cyanide will be transferred unfiltered into a one liter amber glass bottle, preserved with NaOH to pH>12

and cooled to 40 C.

Sample Handling and Recordkeeping

samplers will record the date and time each sample is collected, as well as the depth interval from which the sample was withdrawn. All sample containers will have a serially numbered sample tag attached as described in accordance with Section 5.2 of the QAPP. Samples will be immediately placed in coolers on Blue Ice to await shipment. Sample numbering will be in accordance with Section 4.12 of the QAPP. Prior to shipment, Chain-of-Custody forms will be filled out by the field sampling team leader. A copy of each completed form will be retained in a file and the originals will be packed in the shipping container.

OA/OC

1. Equipment Decontamination

All rods will be scrubbed in an Alconox solution, steam cleaned, rinsed with DI water and allowed to dry prior to use. All rods will be changed between holes such that rods will not be reused from sample point to sample point. Teflon tubing employed for the peristaltic pump will be decontaminated between sample points by pumping DI water through it for at least five minutes. The bailers will be cleaned with an Alconox detergent solution, rinsed with DI water and allowed to dry before use.

2. QA/QC Samples

QA/QC Geoprobe samples will be collected separately from on-site monitoring well samples. The following QA/QC samples will be collected for the volatiles:

1 equipment blank

1 trip blank

1 duplicate

1 matrix spike/duplicate

The following QA/QC samples will be collected for metals and total and amenable cyanide:

1 equipment blank

1 duplicate

QA/QC samples will be collected in accordance with Section 4.10 of the QAPP.

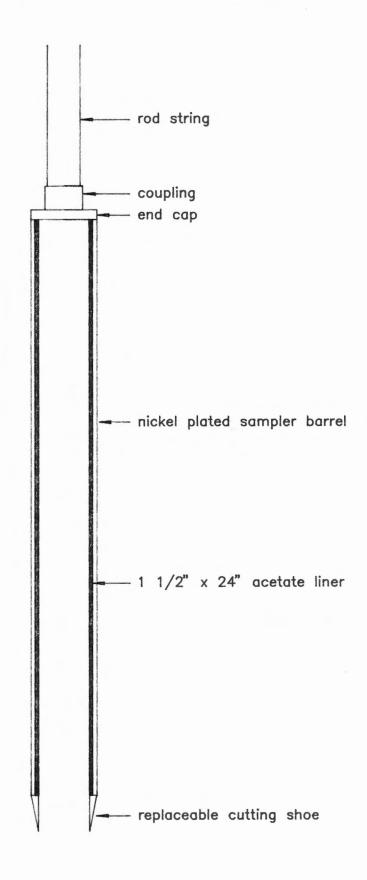


Figure 1. Soil sampler assembly.

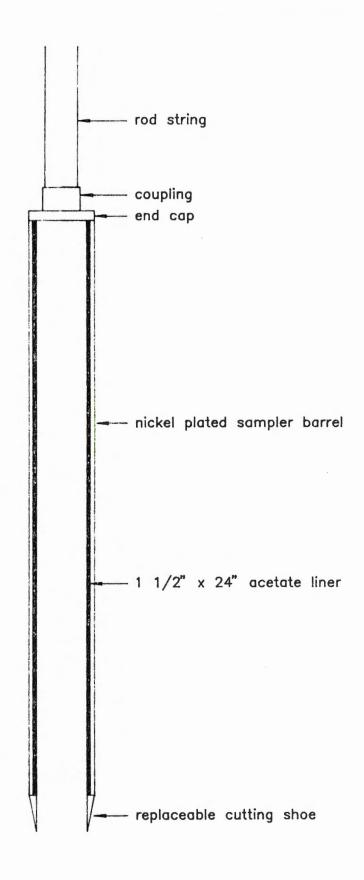


Figure 1. Soil sampler assembly.

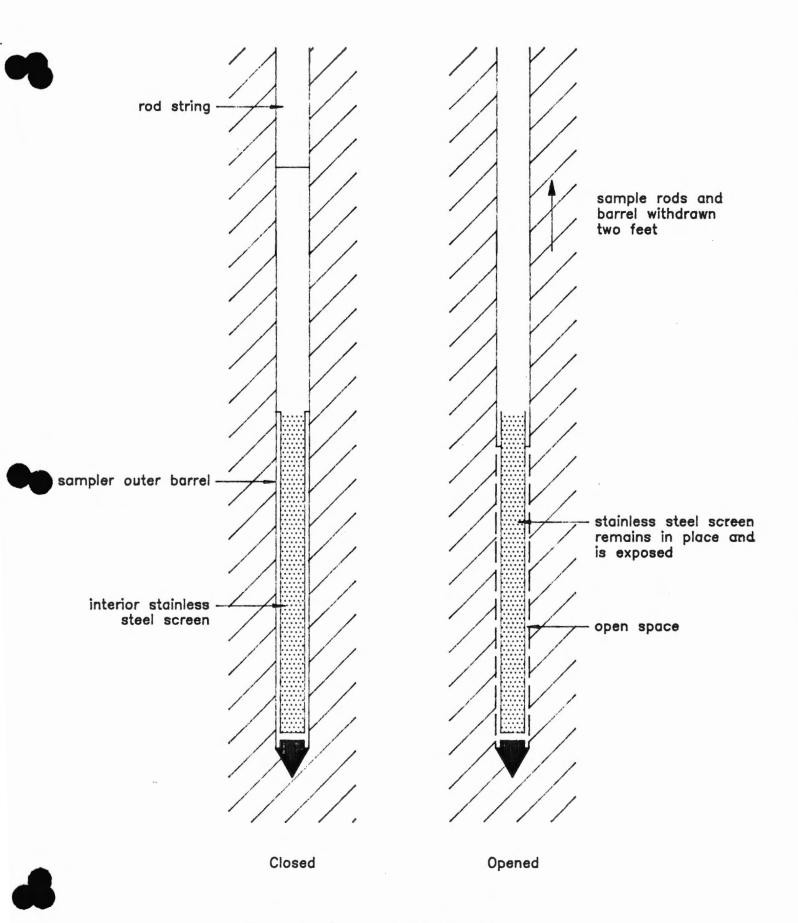


Figure 2. Screened ground water sampler.

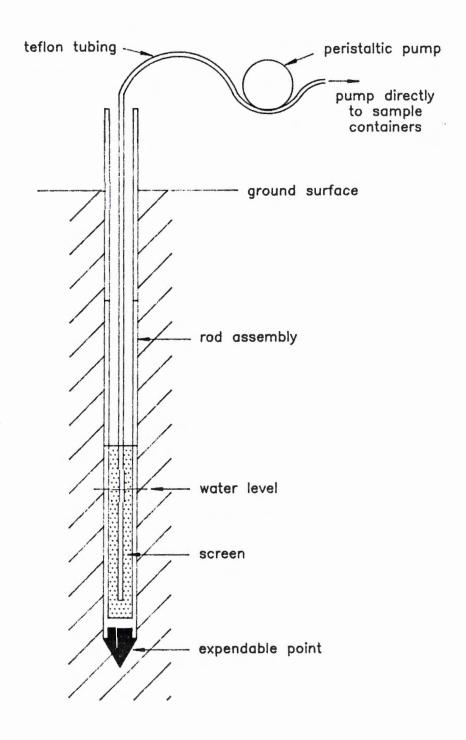


Figure 3. Sampling ground water for metals and cyanide by peristaltic pumping.

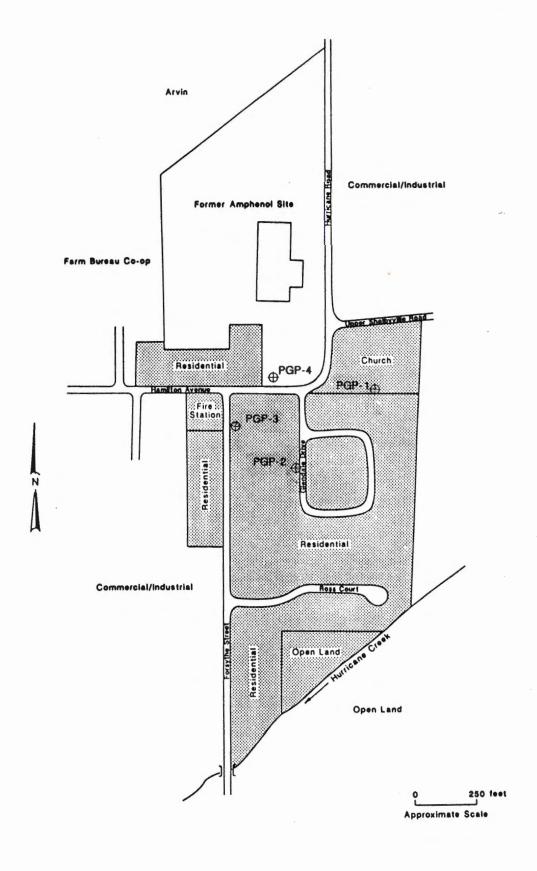


Figure 4. Locations of proposed Geoprobe sampling points.

SENT BY: A. T. K

MEMORANDUM

TO:

William Buller - US EPA Region 5

FROM:

John Koehnen - A.T. Kearney

SUBJECT:

Franklin Letter Issues Review

DATE:

September 5, 1996

cc: P. Brown-Derocher

This memorandum is accompanied by a copy of your draft letter to Mr. Samuel Waldo with a series of editorial suggestions made solely to ensure clarity of the comment. In addition, the issues discussed below relate to several major points made in your draft letter. A.T. Kearney has reviewed this letter for clarity as well as the technical issues raised. If you require any clarification of these comments or edits please do not hesitate to contact me at (312) 223-6253

COVER LETTER

- The first paragraph of the second page of your letter states that the data pertaining to the groundwater recovery system are inadequate. The installation of at least six new piezometers/monitoring wells is suggested later in Attachment 1. I would suggest presenting a clear indication of exactly where these piezometers/monitoring wells is suggested later in Attachment 1. placed, either by using A.T. Kearney's suggestions which were recently submitted or the suggestions of the US EPA ADA Personnel.
- The third paragraph on the second page of your letter indicates the Respondent must include all pertinent information in the revised CMS Report. In addition, an element under your comment No. 2 requires the Respondent to include a schedule of implementation and submittal of the Recovery System Evaluation Report. You may want to clearly state what submittals will be required in the future. I interpret from your letter and Attachment 1 that at least four submittals may be required (i.e., revised CMS Report, separate submittal of response summary, Recovery System Work Plan, and Recovery System Report).
- The last full paragraph on your cover letter states that US EPA may exercise its right to perform work as needed..... Unless US EPA wishes to commit resources to performing RFI filed activities. I suggest this language be softened or changed to indicate that stipulated penalties may apply. The potential exists that Franklin would accept this course of action.

ATTACHMENT 1

- Comment No. 2 As stated above, you may wish to provide additional information regarding the locations of the new piezometers/monitoring wells. Otherwise, if you leave it to Franklins interpretation, you may have to revisit this issue again in the future.
- Comment No. 3 I agree that the results may not be adequately represented in the figures, however, I think the biggest issue here is the lack of sufficient data points to the west to more accurately define the groundwater flow direction, and the lack of simultaneous readings from all available data sources (i.e., collect water levels from all wells within a 12 hour period) to adequately represent the flow direction of the entire system. I edited the comment to state that the data may be interpreted different than as presented.
- Comment No. 7 I feel that this comment should be softened considerably. They have performed a series of pump tests, albeit mini rate, at the newly installed wells and should have a somewhat accurate idea of the potential success of a recovery system. The Pilot Study system would be so much like a corrective measures treatment system that they may as well go all the way and initiate a groundwater pump and treat system which will remain operative until VOC levels are within acceptable limits. At this time, the infiltration gallery does not seem to be the most appropriate since this approach would be more disruptive to the immediate neighborhood (i.e., digging trench and installing piping or parking a tanker truck) than even the P&T option.
- Comment No. 8 As you recall, we had initially requested a well in the Unit D aquifer and met with significant resistance from Franklin representatives. This is primarily due to a reasonable concern expressed by Franklin that drilling though a semi-impermeable layer could create the potential for contaminant carry-down. I agree that this data point is valuable, however, you may wish to evaluate whether an alternate location away from areas of high levels of VOCs may be more appropriate. The alternate location may not yield the most representative data, but would reduce or eliminate cross-contamination concerns.

tuble 5.1

Comment No. 9 - The indication that the lead concentrations are near MCLs is unclear. We recommend that you clarify whether the level you are currently concerned about is truly an action level (i.e., .015 mg/l), since no true MCL exists for lead. You may wish to clarify this issue or have Franklin provide additional information.

Please note that the above statements are my general impressions. As you know, several of these issues are discussed in more detail in some of our recent submittals for the Franklin site. If you have additional questions or comments please call me at your convenience.

CERTIFIED MAIL

Mr. Samuel Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut

Re: Administrative Order on Consent (Dated November 27, 1990) Franklin Power Products/Amphenol IND 044 587 848 DRE-8J

John to

Dear Mr. Waldo:

The United States Environmental Protection Agency (U.S.EPA) has reviewed the document "Report of Additional Corrective Measures Studies (CMS) for the Former Amphenol Facility, Franklin Indiana" (dated June, 1996) which was submitted in accordance with the above referenced Administrative Order on Consent (AOC). U.S. EPA does not approve of the above referenced document as submitted and requires Respondents to amend the document in accordance with the comments noted in Attachment 1 of this letter. Certain issues pertaining to Hurricane Creek and the on-site groundwater recovery system require additional data collection—and the matter of addressing these data—gaps—are discussed below.

Visual observation of geologic and hydrologic conditions were employed to evaluate potential groundwater contamination at Hurricane Creek. U.S. EPA has determined that these observations as reported do not demonstrate that groundwater at Hurricane Creek has not been impacted. Respondent shall address this matter by implementation of aither one of the two options described below:

Option 1 - Sampling of groundwater at Hurricane Creek during june low flow conditions. Employ a modified sampling procedure to that specified in the June 1994 Workplan for collecting representative groundwater samples during low flow | ocoted conditions. Sampling locations at three points downstream of the storm sewer outfall.

Option 2 - Installation and sampling of at least two for the monitoring wells at Hurricane Creek. Monitoring wells Shall be blocated downstream of storm drain outfall and near the creek banks, and screened in the uppermost water bearing zone.

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U.S. EPA hydrologists have reviewed the existing data pertaining to the operation of the on-site groundwater recovery system and determined that the data is insufficient to evaluate the recovery system's effectiveness. U.S. EPA concludes that to fully evaluate the recovery system, additional piezometers/monitoring wells are needed to define the potentiometric surface during operation of the system.

Within thirty (30) days of receipt of this letter,
Respondents shall submit to U.S. EPA for approval, an On-site
Recovery System Evaluation Workplan. The Workplan shall include
the specifics noted in comment 2 of Attachment 1. Proper location
of piezometers/monitoring wells will likely require off site
installation. Pursuant to paragraph XII.2 of the MC.
Respondents shall seek access to off site property for the
purpose of installing piezometers/monitoring wells. With the exception we had
within thirty (30) days of receipt of this letter, Respondents submitted and
shall submit a revised report for the June 1996 CMS ledger which addresses all accesses accesses accesses and accesses accesses

Swithin thirty (30) days of receipt of this letter, Respondents of Shall submit a revised report for the June 1996 CMS eport which separate addresses all comments of Attachment I of this letter. The revised report shall clearly state which option Respondents have chosen to evaluate contamination at Hurricane Creek, and the specifics for implementing the investigative option. All revisions to the report shall be clearly identified by highlighting, underlying, or other similar means, and accompanied by a separate submittal providing a summary of the responses and noting where the revisions were inserted in the report. If Respondents believe that certain deviations from the directives in this letter are necessary, such changes shall be discussed with U.S. EPA and approved prior to submittal of documents.

Should Amphenol fail to satisfactorily respond to all comments in Attachment 1 and the Hurricane Creek and recovery system data needs, U.S. EPA may exercise its right to perform work as needed to fulfill the data requirements and complete the CMS report.

If you wish to discuss any items please contact me at (312) 886-4568.

Sincerely,

William Buller, Project Coordinator Enforcement and Compliance Assurance Branch Waste, Peptides and Toxics Division MI/WI Section

which has already

cc: J. Michael Jarvis, Franklin Power Products with enclosure Michael Sickles, TDEM with enclosure John Koehnen, A.T. Kearney, with enclosure

bcc: Larry Johnson, ORC with enclosure

ATTACHMENT I U.S. EFA Comments on June 1996 CMS Report

General Comments

- The June 1996 report pertains to an investigation performed prior to the report date, however the field procedures are discussed in the context that procedures will follow the Work is forthcoming Workshop, rather than stating the procedures were performed in accordance with the Work plan. The text shall be revised to state that the Workplan procedures were followed, or note any -while noting (procedures which deviated from the plan.
- The On-site Recovery System Evaluation Workplan shall to the south -preseribe the fullowing: include
 - Installation of at least six additional piezometers/monitoring wells. Ideally, piezometers/wells should be installed perpendicular to the potentiometric contours created during operation. To provide better delineation of the plume, at least two of the piezometers at perimeter locations shall be constructed to serve as monitoring wells. Data collection procedures shall include the following:
 - Measurement of water levels in all wells and piezometers during operation of the recovery system.
 - Sampling/analysis for volatile organic compounds (VOC)s existing down gradient monitoring wells and newly installed revised wells.
 - Development of a site map which shows the proposed locations of Current and piezometers and wells.
 - Schedule of implementation and submittal of the Recovery System Evaluation Report.
 - The report shall provide a map showing potentiometric head data

for each measuring point, potentiometric contours and groundwater flow lines.

; 9- 5-96 ; 1:46PM ;

Provide Procedures to ensure that, - Discuss how in the interim, the existing recovery system will be operated to maximize the recovery of contaminants, and lowering of the static groundwater

3. The groundwater contour levels in sheet 1 do not correspond to the water /level data of wells MW31, MW32, and MW33. This data indicates that groundwater flow direction at the time of These would be measurement, was to the southwest at this location. direction as significantly different than the southeastern The figure should be revised to show water direction shown. level contours that, courcespond to the data.

Ladequatery The report cites that VOC contaminant concentrations at Forsythe Street are much lower than previous sample results and draws the conclusion that significant natural attenuation of contaminants has occurred. The text should note the different sampling methods (geoprobe vs monitor wells) and how data comparisons for the two methods may overstate attenuation. the text should discuss in more detail her monitor well were Collected prior to pump tests or after. Gamples

> The conclusion that natural attenuation of VOCs is significant should be supported by data - comparison of on-site to off-site concentrations of VOCs, ratios of the VOC parent compounds to daughter compounds (i.e. winyl chloride). TCE, DEC, and

6. The report states that utilities lines may prevent installation of a pipeline at Forsythe street (Operable Arca 3). All available information including location, depth, and diameter of pipes, pertaining to utility lines at Area 3 shall be provided.

- -options The discussion of remedics for Operable Area 3 shall be expanded to include the *emedies noted below. These remedies shall be discussed in accordance with Attachment I of the ACC.
- (a) Pilot study in which monitor wells at Operable Area/3 XX are converted to recovery wells. Pilot study includes pumping of the recovery wells for several months, periodical determination of VOC concentrations, and temporary storage of contaminated water in tank/trucks with transfer to the existing groundwater treatment system for disposal.
- (b) Construction and operation of an infiltration gallery at Operable Area 3. The infiltration gallery would be constructed near the base of the water bearing zone, the water pumped from a sump and transferred to the existing treatment system.

horizontal drilling

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8. To provide monitoring of the Unit D aquifer, the proposed groundwater monitoring system proposed shall include a monitoring well located near MW-32 screened in Unit Dr aquifer which is the

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9. Results of lead analysis of the treated groundwater show lead concentrations near maximum concentration limits. Periodic sampling of the treated water for metal analysis until data indicates metal concentrations are stabilized at low levels, shall be proposed.

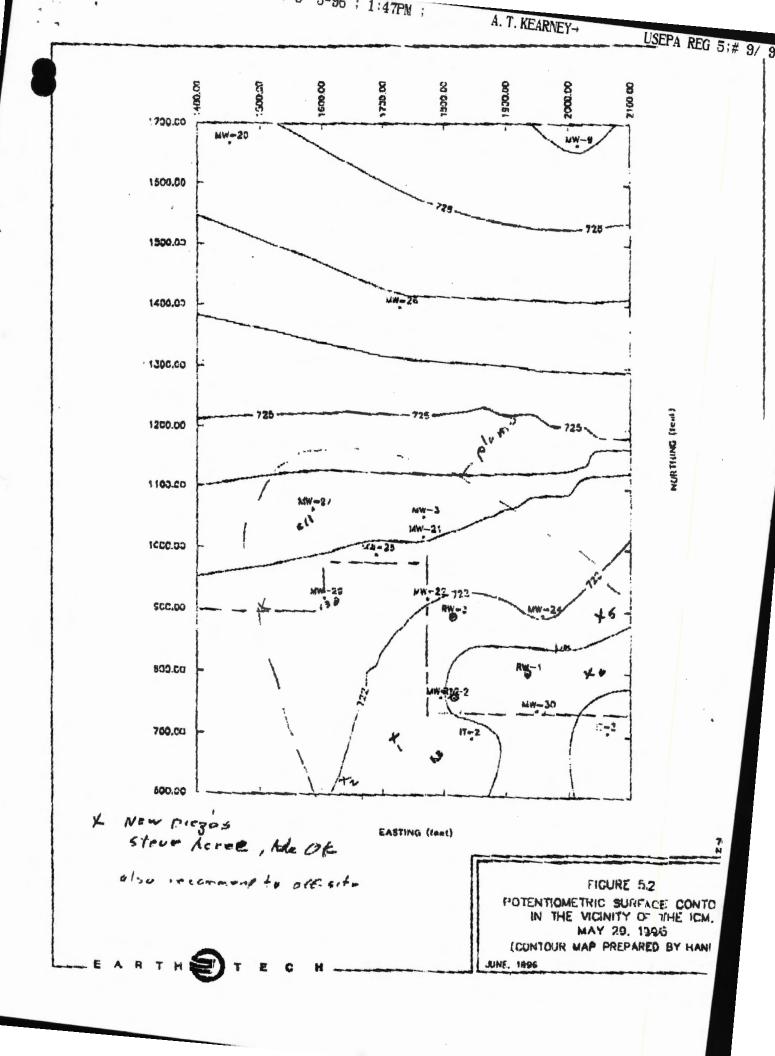
Specific Comments

ly demonstrate that

1. Page 14 - Text is not clear the recovery system is operated so as to maximize recovery. The existing system operation shall be operated to maximize its effectiveness. Revise text to state how-the existing recovery system will be operated to maximize the recovery of contaminants.

- 2 4. Page 20 the word public is misspelled.
- 7. Page 24 The Statement "there is no evidence that Nurricane Creek is a groundwater sink" shall be deleted. There is no evidence it is not a sink.

al .015 ppm



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL RISK MANAGEMENT RESEARCH LABORATORY SUBSURFACE PROTECTION AND REMEDIATION DIVISION P.O. BOX 1198 • ADA, OK 74820

IND 644 587 848

August 19, 1996

OFFICE OF RESEARCH AND DEVELOPMENT

MEMORANDUM

D.3.1

SUBJECT: Amphe

Amphenol Facility, Franklin, Indiana (96RC05-001)

Interim Measures Capture Zone Definition

FROM:

Steven D. Acree, Hydrogeologist

Technical Assistance & Technology Transfer Branch

TO:

Bill Buller, RPM

U.S. EPA-Region 5

Per your request for continuing technical assistance, data from the Corrective Measures Study Report and the Report of Additional Corrective Measures Studies have been reviewed with respect to delineation of capture zones resulting from extraction from wells RW-1, RW-2, and RW-3. Methodology for evaluation of hydraulic containment within a specified area generally includes measuring hydraulic heads to determine whether hydraulic gradients are indicative of capture and monitoring water quality downgradient of the containment zone to evaluate whether temporal trends in concentration are indicative of further contaminant migration and containment failure.

As noted in the Report of Additional Corrective Measures Studies, hydraulic head data from nearby monitoring wells indicate the extraction wells have some influence on potential ground-water flow directions. However, such influence does not imply full capture of the plume. As requested, the limits of ground water impacted at total VOC concentrations greater than 0.010 mg/l (figure attached) were used as the intended capture zone of the Interim Measures system. Sufficient hydraulic head data to evaluate capture to these limits are not available. It is also noted that relatively few data, particularly current data, are available to define the extent of the area to be contained. These issues and recommendations for their resolution are discussed in detail below.

- 1. The limits of the plume to be contained do not appear to be well defined east and, particularly, west of the pumping wells. Data used to define the plume extent in these areas were obtained from Geoprobe samples collected approximately three years ago. Limits of the plume may have changed since that time. It is suggested that additional data be obtained to better define the limits of the plume and the area to be contained. It appears this definition will require current water quality data from all wells in this area of the site and the installation of additional wells/piezometers to define the limits of the plume east and west of the current well field. Potential locations for additional wells would be east to northeast of IT-3, the vicinity of Geoprobe location PGP-8, and west of this location. Piezometers discussed below may also be used to define the plume in these areas.
- 2. Insufficient hydraulic head data are available to evaluate potential hydraulic gradients within the bounds of the plume as currently identified. It appears that piezometers located in the pre-pumping downgradient and sidegradient positions with respect to the current extraction wells should be used for this evaluation. At a minimum, paired piezometers in these directions will be needed to estimate gradients. Pairs generally should be aligned approximately perpendicular to the anticipated equipotential lines resulting from pumping. In some areas, piezometer locations suitable for estimating gradients using a classic three-point problem may be needed.

Based on the current plume definition (attached figure) and well configuration (Figure 5.1 of the Report of Additional Corrective Measures Studies), it is suggested that approximately three to four additional piezometers be placed west and southwest of RW-2 to define gradients in this area. Potential locations are approximately 100 ft southwest of MW-12, approximately 100 ft further southwest of this location, and approximately 100 ft south-southwest of RW-2. Likewise, approximately three additional piezometers located 50 ft and 150 ft northwest of RW-1 and 100 ft west of RW-1 should be considered to better define gradients in this area of the plume. It is also suggested that a minimum of two additional piezometers be installed at locations approximately 50 ft to 100 ft southeast of well IT-2 and well MW-30 to aid in defining the downgradient limits of capture. It should be noted that locations other than those suggested above

may be adequate for obtaining the necessary information regarding hydraulic gradients during system operation. These locations may be modified based on site conditions (e.g., buildings). The objective is to define hydraulic gradients around the extraction wells.

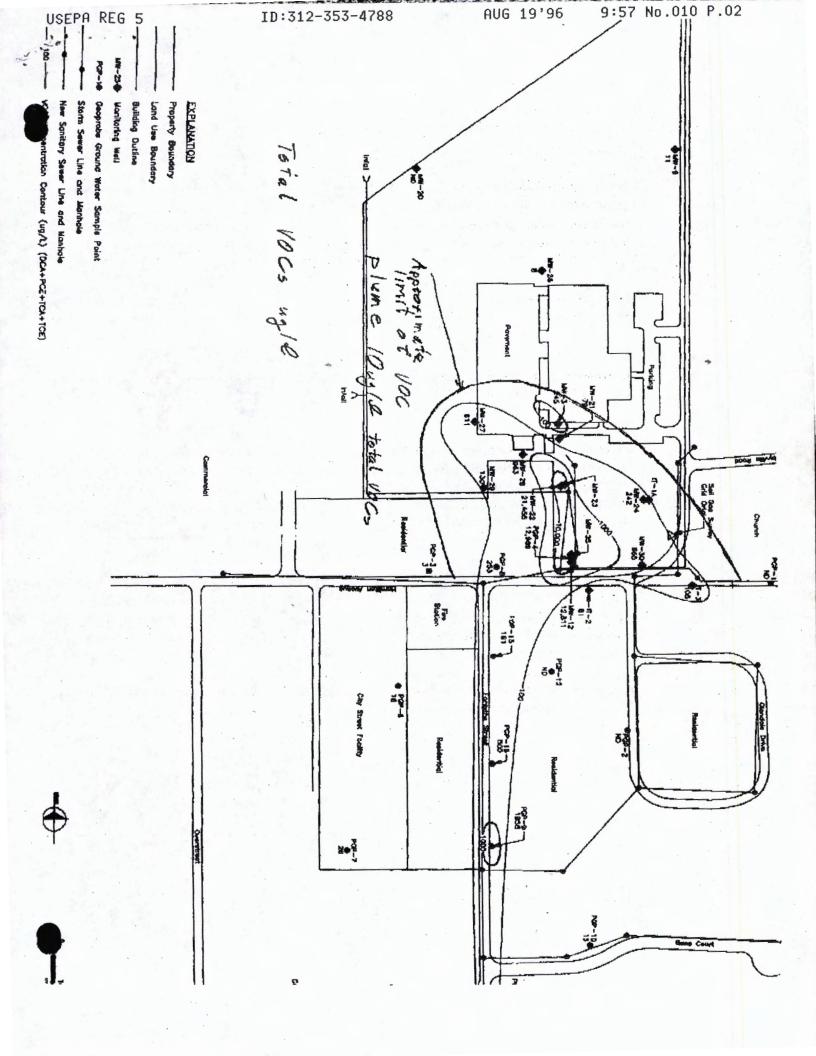
3. It generally is impracticable to install sufficient piezometers to fully define capture zones in most settings. Therefore, other evidence, including temporal trends in gound-water quality data downgradient of the extraction system, is necessary to adequately evaluate capture. It is recommended that these piezometers be constructed so as to allow water quality sampling to better ensure containment downgradient of the capture zone and to better define limits of the area to be contained. Tools such as the Geoprobe often may be used to install small diameter wells quicker and more cost effectively than possible with traditional drilling rigs. It is suggested that such tools be considered for installations in this shallow aquifer.

Continued monitoring of ground-water quality in directions downgradient from the extraction wells should be used to aid in identifying loss of capture as evidenced by continued contaminant migration. It is recommended that data from existing wells and the piezometers discussed above be reviewed on a regular basis (e.g., semiannually to annually) to evaluate potential contaminant migration.

If you have any questions concerning these comments, please do not hesitate to call me at your convenience (405-436-8609). A copy of a recent document entitled "Methods for Monitoring Pump-and-Treat Performance" is enclosed for your reference. Use of piezometric data and other techniques for evaluating capture zones are discussed in more detail in this document. We look forward to future interactions with you concerning this and other sites.

Enclosure

cc: Mike Fitzpatrick (5303W)
Thad Slaughter, Region 5
Carol Witt-Smith, Region 5





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL RISK MANAGEMENT RESEARCH LABORATORY SUBSURFACE PROTECTION AND REMEDIATION DIVISION P.O. BOX 1198 • ADA, OK 74820

D.3.1

August 2, 1996

OFFICE OF RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Amphenol Facility, Franklin, Indiana (96RC05-001)

Report of Additional Corrective Measures Studies

FROM: Steven D. Acree, Hydrogeologist

Technical Assistance & Technology Transfer Branch

TO: Bill Buller, RPM

U.S. EPA-Region 5

Per your request for continuing technical assistance, the referenced document has been reviewed. The report describes additional studies designed to better define potential groundwater flow directions, water quality, and hydraulic parameters along Forsythe Street. Although the studies provide additional data regarding these aspects of the site, significant uncertainty concerning contaminant distribution, transport, and fate in this area of the site still exist. Detailed comments regarding the conclusions of this report and recommendations regarding the proposed remedial options are provided below.

- 1. Estimates of hydraulic gradients in the southern portion of Operable Unit 3 (Sheet 1) indicate potential ground-water flow in a south to southeast direction. Inspection of hydraulic head data from wells MW-31, MW-32, and MW-33 reveals that these data may also be interpreted as indicative of the potential for flow toward the southwest. Based on these data, the possibility that contamination previously observed in Geoprobe samples from some locations west of Forsythe Street may be the result of site activities cannot be ruled out. In addition, the hydraulic head data obtained during this study represent only one point in time. Hydraulic gradients and, therefore, potential ground-water flow rates and directions may vary temporally (e.g., seasonally).
- 2. Based on the design of the pumping tests used in this study, the results should be interpreted as only gross estimates of

transmissivity, subject to significant uncertainty. Additional hydraulic testing would be required to better estimate hydraulic properties for reduced uncertainty in design of a ground-water extraction system in this area. However, it is noted that such a system is not currently proposed.

3. The report interprets the ground-water quality data obtained from the new wells as indicative of a contaminant plume extending from the former Amphenol site to the vicinity of the entrance to Ross Court. It is noted that these data may also be interpreted as indicative of a plume extending in a more southerly to southwesterly direction to the vicinity of well MW-32. Additional monitoring east and west of Forsythe Street would be required to better define potential flow directions.

Ground-water quality data from the new wells suggest that aqueous-phase contaminant concentrations may not be as high as indicated by previous Geoprobe samples. However, it is noted that the plume is not well defined. Areas of somewhat higher concentrations may exist east and, potentially, west of Forsythe Street. Hydraulic gradients estimated from the available well data indicate the potential for contaminant migration east and, potentially, west of Forsythe Street. Additional monitoring in what appears to be residential areas would be required to better define the plume. With the exception of data from well MW-33 and some previous Geoprobe samples, hydraulic head and ground-water quality data in the area of Operable Unit 3 are primarily from wells located along Forsythe Street.

4. Potentiometric surface information (Table 5.2, Figure 5.1, Figure 5.2) indicates that the current ground-water extraction system is influencing ground-water flow in Operable Unit 1. However, these data are insufficient to demonstrate complete capture of ground water in this area. It appears that data from additional piezometers would be required to better define capture zones. Modeling of site conditions to estimate potential capture zones has been conducted in the past. However, such estimates are often sensitive to hydraulic parameters such as hydraulic conductivity distribution which are not defined in detail at this site. Field data, such as hydraulic head measurements, are highly preferable as independent tools for evaluating capture zones.

5. The report proposes continued monitoring instead of more active remediation such as ground-water extraction and treatment. This recommendation appears to be based on the contaminant concentrations observed in samples from the new wells in Operable Unit 3. These concentrations are approximately an order of magnitude lower than concentrations obtained from previous Geoprobe samples. The report concludes that this occurrence is indicative of attenuation with time.

Other mechanisms may also result in such apparent decreases in concentrations. For example, the Geoprobe samples a smaller vertical interval than the current monitoring wells. If contaminant distribution with depth is not homogeneous, samples obtained from the monitoring wells may be the result of mixing waters with different contaminant concentrations even in this relatively thin aquifer. Such a mechanism may explain much of the difference in contaminant concentrations between Geoprobe samples and monitoring well samples. Therefore, comparisons of these two data sets may not be as indicative of actual attenuation in contaminant concentrations as suggested in this document. It is also noted that contaminant plumes are not well defined. Somewhat higher concentrations than those observed in samples from the new wells may exist in this area.

The available data are insufficient to determine contaminant distribution and transport in detail or to evaluate contaminant fate processes and rates. More detailed hydrogeologic and geochemical studies would be required to reduce uncertainty in evaluation of potential remedial options. Monitoring of the current wells without other studies designed to better characterize contaminant transport and fate may provide little additional information useful in estimating potential remedial time frames or the effects of other remedial options such as extraction. One option would be to better define the current plume and monitor its behavior for a period of time (e.g., one to two years) prior to final evaluation of the remedial alternatives listed in the referenced document. More information regarding site hydrology and geochemical conditions may also be acquired during this time. Much information regarding potential contaminant transport and fate may be gained from such baseline monitoring and characterization studies.

If you have any questions concerning these comments, please do not hesitate to call me at your convenience (405-436-8609). We look forward to future interactions with you concerning this and other sites.

cc: Mike Fitzpatrick (5303W)
 Thad Slaughter, Region 5
 Carol Witt-Smith, Region 5

RZ2.R05033.01.ID.023

July 31, 1996

Mr. William Buller US Environmental Protection Agency Region 5 - DRE-8J 77 W. Jackson Boulevard Chicago, IL 60604 D.3.7

ATKEARNEY

Reference:

EPA Contract No. 68-W4-0006; REPA Work Assignment No. R05033; EPA

ID No. IND044587848, Former Franklin Power Products/Amphenol, Franklin, Indiana; Review of Interim Corrective Measures System

Effectiveness and Recommendations for Modifications; Task 02 Deliverable

Dear Mr. Buller:

Please find enclosed A.T. Kearney's evaluation of, and recommendations for potential modifications to, the Interim Corrective Measures System (ICM) at the Franklin/Amphenol facility. Accompanying this review is a diskette containing the review comments in Word Perfect 6.1 for Windows format.

This deliverable has been prepared per your request during a teleconference on July 24, 1996 with Mr. Dave Walker and Mr. John Koehnen of A.T. Kearney. The recommendations have been made due to the lack of sufficient data to demonstrate the effectiveness of the ICM and it's potential impact(s) on downgradient groundwater quality and/or surface water and sediment quality within Hurricane Creek.

Please contact me or the A.T. Kearney Work Assignment Manager, Mr. John Koehnen, at 312/223-6253, if you have any questions.

Sincerely,

Patricia Brown-Derocher

Regional Manager

cc:

F. Norling, EPA Region 5

J. Koehnen

D. Walker

W. Jordan, Central Files

A. Williams

FRANKLIN POWER PRODUCTS/AMPHENOL FACILITY FRANKLIN, INDIANA

REVIEW OF INTERIM CORRECTIVE ACTION MEASURES SYSTEM EFFECTIVENESS AND RECOMMENDATIONS FOR MODICATIONS EPA ID. NO. IND044587848

Submitted to:

Mr. William Buller
Work Assignment Manager
US Environmental Protection Agency
Region 5
77 W. Jackson DRE-8J
Chicago, Illinois 60604

Submitted by:

A.T. Kearney, Inc. 222 W. Adams Street Chicago, Illinois 60606

EPA Work Assignment No.

Contract No.

A.T. Kearney WAM

Telephone No.

EPA WAM

Telephone No.

: R05033

: 68-W4-0006

: John Koehnen

: (312)223-6253

: Mr. William Buller

: (312)886-4568

FRANKLIN POWER PRODUCTS / AMPHENOL FRANKLIN, INDIANA EPA ID No. IND044587848

REVIEW OF INTERIM CORRECTIVE MEASURES SYSTEM AND RECOMMENDATIONS FOR MODIFICATIONS

In order to demonstrate that the Interim Corrective Measure (ICM) is currently effective in controlling the offsite migration of the groundwater contaminant plume the comments presented below must be addressed. This information was originally requested during a February 29, 1996 teleconference between US EPA and Franklin/Amphenol. At that time, facility representatives agreed to provide the requested information, but have not yet done so. If recent and accurate information is available to address the questions and concerns identified below, supporting documentation must be submitted immediately to US EPA. If the information is not available, Franklin/Amphenol is to perform the activities discussed below and present the information in a complete and concise manner to US EPA within the next 60 days.

- 1. The efficiency and effectiveness of the current ICM system has not been adequately demonstrated. At present, several outstanding issues and deficiencies have not been addressed. The current ICM operating conditions and well system IS NOT effective in reducing the static groundwater level to an elevation below the elevation of the invert of the storm sewer. Hence, contaminated groundwater may infiltrate the storm sewer and result in a release of hazardous constituents/waste into the storm sewer and ultimately into Hurricane Creek. Notwithstanding the risk evaluation which was previously performed, releases to the environment are NOT acceptable. The north storm sewer invert elevation is 719.72 feet and the south storm sewer invert elevation is 718.88 feet. Based upon the figures recently submitted, both in September 1995 and June 1996 documents, the groundwater elevations are at least one foot above the storm sewer inverts during both of these time periods. This condition needs to be further evaluated, and remedied in the very near future. The following steps shall be performed in evaluating the ICM:
 - A complete round of tapedown measurements shall be performed at ALL wells, piezometers, recovery wells, etc. that will yield reliable data on the groundwater elevation. This activity must be performed over a short time span, at most within a two day period.
 - In order to establish the volume of groundwater infiltration to the storm sewer in the area of highly contaminated groundwater, flow measurements shall be performed in the storm sewer manholes located near the ICM wells. This includes the north manhole, the south manhole, and the manhole east of the ICM wells. The flow measurements should take place at a time when inflows to the

Groundwater elevation data shall be collected from each new and existing piezometer/monitoring well available for monitoring within a two-day period. Groundwater elevation contour maps shall then be developed that take into account the pumping of all three recovery wells and the amount of groundwater infiltration to the storm sewer, as measured in response to Comment 1 above.

3. In addition, it has been contended that the current pumping rate of the three recovery wells is based upon an assumption that an increase in the pumping rate will dewater the wells or drawdown the water levels to below the level of the pumps. While this assumption may be accurate, it is likely based upon an older set of hydrogeological conditions where the thickness of the water table is less than it has been since seasonal or other conditions have raised the water level to those levels shown on the September 25, 1995 figure and the June 1996 figure. This condition has obviously meant that the groundwater elevation is above the storm sewer invert and allows for infiltration and therefore a release of hazardous constituents/waste to the environment. This is NOT acceptable and MUST be halted.

Revise the current ICM system, realizing that this system will ultimately be considered the Corrective Measure, and provide a discussion justifying the adequacy of this system OR provide a plan to make modifications to the system (i.e., additional recovery wells, pumping rate increases, etc.) which will allow the ICM to perform adequately and be considered the Final Corrective Measure.

P 054 656 562



Receipt for Certified Mail No Insurance Coverage Provided Do not use for International Mail (See Reverse)

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3	Postage	\$ 193
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DRE-8J

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Samuel Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut

Re: Franklin Power Products/Amphenol IND 044 587 848

Dear Mr Waldo:

Enclosed for your review are revised risk calculations for inorganic constituents in soils at your facility. The revised risk calculations incorporates the data provided in your September 22, 1995, letter as Attachment I, and addresses the comments of your March 26, 1996, letter.

In response to your request for an opportunity to comment on the corrective action remedy selection, a brief discussion of the United States Environmental Protection Agency's (U.S. EPA) remedy selection process is provided as follows:

Upon approval of the Corrective Measures Study (CMS) Report, U.S. EPA prepares a Statement of Basis/Fact Sheet which summarizes the corrective measure options, and proposes the remedy preferred by U.S. EPA, and salient information developed during the corrective action process. The SB/FS is presented to the public as a preliminary determination of the remedy. A comment period of at least 45 days is provided, and if requested a public hearing is held. The public comment period provides the Respondent with the opportunity to comment on the SB/FS. After the completion of the public comment period, and hearing if needed, a Final Decision and Response to Comments (FD/RTC) is developed by U.S. EPA. This document identifies the selected remedy, points out the changes made to the proposed remedy due to public comments, explains the rationale for the selected remedy, and provides a comprehensive response to comments regarding the proposed remedy and alternatives.

Your March 26, 1996, letter also refers to U.S. EPA's letter of March 12, 1996, which calls for submittal of an alternative plan for the June, 1994

Workplan, and notes that this was not discussed prior to receipt of this letter. To summarize this issue, the June 1994 Workplan provides for sampling/analysis of groundwater at three critical locations at Hurricane Creek during dry stream conditions. This Workplan was agreed upon after protracted discussions between Amphenol and U.S. EPA. However, in a September 22, 1995, letter, Amphenol stated that they now believe dry stream conditions do not occur at the critical location. U.S. EPA agreed to this sampling approach with the understanding that dry stream conditions at the critical location were not unusual and would likely occur in the future. In light of your recent statement concerning stream conditions, U.S. EPA believes its request for submittal of an alternative plan for the June, 1994 Workplan within ninety (90) days of receipt of the letter is fully justified. Also, a telephone log developed by Bill Buller of my staff regarding a conversation between you and him on February 15, 1996, indicates that this matter was discussed briefly.

If you have any questions, please call Bill Buller of my staff at (312) 886-4568.

Sincerely,

Paul Little, Chief Enforcement and Compliance Assurance Branch Waste, Pesticides and Toxics Division MI/WI Section

cc: Mike Sickels, IDEM with enclosure

bcc: Larry Johnson, ORC

AUTHOR'S FILE COPY

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352-7	DOMESTIC RETURN RECEIPT
	THE RETURN RECEIPT

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Sam Waldo
Director of Environmental Affairs
Amphenol Corporation
358 Hall Avenue
P.O. Box 5030
Wallingford, Connecticut

Re: Administrative Order On Consent (AOC) (dated November 27, 1990) Franklin Power Products/Amphenol IND 044 587 848

Dear Mr. Waldo:

The United States Environmental Protection Agency (U.S. EPA) is in receipt of your February 9, 1996, letter and the enclosed Work Plan for Operable Area 3 dated February 9, 1996. The U.S. EPA hereby approves the February 9, 1996 Workplan with the following modifications (items 1-7) as stated below:

- 1. Undisturbed soil samples shall be collected at the top of unit C at monitor wells MW-31 and MW-34, and tested for permeability;
- 2. Samples shall be collected from a borehole located near the south end of Forsythe Street for grain size analysis. In addition, the lithology of the borehole shall be continuously logged down to the Unit C interface;
- 3. Two aliquots for each split spoon sample shall be collected and placed in glass jars; one aliquot used for field PID testing and the other cooled and stored for potential future laboratory analysis;
- 4. With the exception of small quantities used for hydration of bentonite, addition of water to monitor well boreholes shall be avoided if at all possible;
- 5. To ensure that the pump tests results are representative of the hydraulic conductivity of the aquifer, the Forsythe Street wells shall be thoroughly developed by surging as well as pumping/bailing so as to significantly reduce the turbidity in the wells;
- 6. A profile of the sewer elevation at Forsythe Street shall be included with the field results; and

7. Samples for metal analysis shall be carefully collected to minimize turbidity, preferably below 5 Ntu, and the turbidity recorded.

It is U.S. EPA's understanding as developed during the February 29, 1996, telephone conference between Amphenol and U.S. EPA representatives, the above noted modifications were agreed to, and that should the investigative results and interpretations show significant data gaps, collection of additional field data is not precluded. Though not discussed in the above noted telephone conference, east-west cross sections for the site portion south of Hamilton Avenue would be beneficial in defining the geology at operable area 3. It is recommended that such cross sections be included in the Area 3 report. In addition to the data collected during the field investigation, logs of the geoprobe sampling points and local residential/industrial wells, could be used to develop these cross-sections.

In accordance with our understanding developed during the January 31, 1996, meeting between Amphenol/U.S. EPA representatives, the Corrective Measures Report (CMS) report shall be completed with the submittal of a Supplement to Respondent's September 1995 CMS report. The Supplement to the CMS report shall include the report for the field investigation and also respond to certain comments noted in U.S. EPA's letter of November 14, 1995. In the interest of advancing the corrective action process, only responses to the following are required for the CMS Supplement:

- 1. A table showing all available analytical results for metals of the groundwater treatment system effluent discharged to the dity of Franklin sewer system, the laboratory reports for these analyses, and a discussion of the comparative discharge rates of the city of Franklin sewer system and the treated groundwater; and
- 2. Sufficient data to fully evaluate the existing on-site groundwater recovery system. If the evaluation does not demonstrate that the existing on-site groundwater recovery system is capable of capturing the entire groundwater contaminant plume generated by contaminant release on the facility property, additional wells shall be proposed to develop a full corrective measure for this plume.

The February 1996 Workplan and resulting report, and the additional responses pertaining to U.S. EPA's November, 1995 letter shall be incorporated into the Supplement to the CMS report, and as Respondent prefers, may be presented as Appendices to the CMS supplement titled as Technical Memorandums. In the February 29, 1996, telephone conference between U.S. EPA and Amphenol representatives, Amphenol suggested that an evaluation of the existing on-site groundwater recovery system would be completed in the near future. It is requested that such evaluation be submitted to U.S. EPA as soon as completed so that this may be reviewed.

Risk assessments pertaining to inorganic constituents in on-site soils have been developed by U.S. EPA in accordance with EPA guidelines and are enclosed in this letter. In addition, U.S. EPA intends to perform a risk assessment for indoor air incorporating the data obtained from the Operation Area 3 field investigation. This information will also be provided to you for review.

U.S. EPA anticipates that these risk assessments will be added (by U.S. EPA) as a modification to the Final CMS report. U.S. EPA believes that these additional risk assessments are needed so that the public can make an informed decision as to remedy selections. If Respondents do not concur with U.S. EPA's risk calculations, Respondents should present its own calculations and a discussion of such assessments. As pointed out in our February 29 telephone conference, proper collection and testing of soil gas at critical locations and depths would provide a more definitive data base for the indoor air risk assessment.

In accordance with the time frame given in the February 1996 Workplan for completion of the field investigation and allowing for time to obtain site access, the Supplement to the CMS report shall be submitted within 90 days of receipt of this letter. Upon approval of the CMS report, U.S. EPA will rescind the stipulated penalties as assessed in the November 14, 1995, letter.

U.S. EPA recommends that prior to initiating the field investigation, Respondents place the June 13, 1994, RCRA Facility Investigation Report and appropriate Technical Memorandums in a repository at Franklin, Indiana for public review.

Respondent's letter of September, 22, 1995, stated that Respondents now believe that the no flow conditions of Hurricane Creek which are needed for implementation of the June 14, 1994 Supplemental Work Plan, are not likely to occur as previously expected. Respondents shall develop an alternative plan to the June 1994 Work Plan and provide such plan as a separate deliverable, within ninety (90) days of receipt of this letter.

If you have any questions, please call Bill Buller of my staff at (312) 886-4568.

Sincerely.

Paul Little, Chief Enforcement and Compliance Assurance Branch Waste, Pesticides and Toxics Division

Enclosure

cc: J. Michael Jarvis, Franklin Power Products w/o enclosure
Michael Sickles, IDEM w/enclosure
John Koehnen, A.T. Kearney w/o enclosure

bcc: Larry Johnson, ORC w/o enclosure

ENFORCEMENT AND COMPLIANCE ASSURANCE BRANCH

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL RISK MANAGEMENT RESEARCH LABORATORY SUBSURFACE PROTECTION AND REMEDIATION DIVISION P.O. BOX 1198 • ADA, OK 74820

February 27, 1996

OFFICE OF
RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Amphenol Facility, Franklin, Indiana (96RC05-001)

Forsythe Street Work Plan

FROM: Steven D. Acree, Hydrogeologist

Technical Assistance & Technology Transfer Branch

TO: Bill Buller, RPM

U.S. EPA-Region 5

Per your request for technical assistance dated October 31, the referenced document has been reviewed. The plan proposes additional studies designed to better define potential ground-water flow directions, water quality, and hydraulic parameters along Forsythe Street. Although the scope of the plan is relatively limited, these investigations appear to be generally sufficient to allow a screening-level evaluation of potential remedial options in this area. Detailed comments and recommendations regarding certain aspects of the proposed studies are provided below.

- 1. The proposed monitoring wells will provide information concerning potential ground-water flow directions and water quality along and east of Forsythe Street. An useful addition to this study would be installation of another well west of Forsythe Street. Information from this location would allow better evaluation of the potential source(s) of contamination observed in Geoprobe samples PGP-7 and PGP-13.
- 2. The plan proposes screening of soil samples using a PID. It is suggested that samples displaying high PID readings be further screened for NAPL using techniques such as soil/water separation tests using hydrophobic dye. Such techniques are described in detail in recent literature (e.g., Cohen and others, Evaluation of visual methods to detect NAPL in soil and water, Ground Water Monitoring Review, 12(4):132-141, 1992).

- 3. Sampling and analysis of contaminant concentrations in soil vapor are not proposed in this study. As contaminant transport through soil gas is of concern in the residential areas of this site, it is recommended that a screening-level effort be undertaken. Relatively limited sampling in the area of the "hot spot" may be useful in screening hazards associated with vaporphase transport of contaminants.
- 4. Studies designed to evaluate the relationship between Unit B and Hurricane Creek are proposed. In addition to these efforts, it is suggested that a staff gauge be established for measuring surface water elevations concurrent with monitoring of ground-water elevations. Information regarding stream flow estimates upstream and downstream of the site may also be useful in evaluating whether this is a gaining or losing reach of the creek. It is recommended that these additional investigations be considered.

If you have any questions concerning these comments, please do not hesitate to call me at your convenience (405-436-8609). We look forward to future interactions with you concerning this and other sites.

cc: Mike Fitzpatrick (5303W)
Thad Slaughter, Region 5
Carol Witt-Smith, Region 5

A.T. Kearney, Inc.
222 West Adams Street
Chicago, Illinois 60606
312 648 0111
Facsimile 312 223 6200

RZ2-R05033.01-EP-014

February 15, 1996

ATKEARNEY

Mr. William Buller Work Assignment Manager U.S. EPA Region 5 77 W. Jackson, DRE-8J Chicago, Illinois 60604

Reference:

EPA Contract No. 68-W4-0006; EPA Work Assignment No. R05033; Corrective Action Document Review; Franklin Power Products/Former Amphenol Site, Franklin, Indiana; U.S. EPA ID No. IND044587848; Review of the Work Plan and Schedule for Additional CMS Work on

Forsythe Street; Deliverable for Task 2

Dear Mr. Buller:

As you requested, the A.T. Kearney Team has reviewed the Franklin Power Products/Amphenol Work Plan and Schedule for Additional CMS Work on Forsythe Street (Work Plan). The Work Plan was generated as a result of the meeting on January 31, 1996 between Amphenol's representative, Amphenol's Attorney and Consultant, U.S. EPA personnel, U.S. EPA General Council and A.T. Kearney Team personnel, as summarized in our February 8, 1996 deliverable. The A.T. Kearney Team's review of the Work Plan consisted of an evaluation of the proposed activity and schedule against agreements reached during the January 31, 1996 meeting; and a review for technical adequacy and to ensure that the goals of the investigation can be/will be achieved.

Based upon this review, several deficiencies were identified. Recommendations for revisions to the proposed investigation and suggested additional investigative activities are identified below.

1. An additional well is recommended west of Forsythe Street to supplement MW-33 and the wells along Forsythe. While MW-33 is necessary to triangulate between wells to allow for an assessment of geologic and hydrogeologic conditions, an additional well should be installed west of Forsythe Street to further evaluate elevated VOC concentrations identified during previous investigations. Also, this well will allow for the collection of additional geologic and hydrogeologic data and will identify any radial groundwater flow patterns (if applicable) and any potential upgradient contaminant sources. Revise the Work Plan to include an additional well west of Forsythe Street.

- 2. Amphenol has indicated that the geology and hydrogeology in Area 3 has not been adequately characterized. The thickness of Unit B is unknown and potential interconnections with lower zones have not been investigated. Also, the potential for contamination of the lower water bearing zones exists and are supported by results of previous investigations. Therefore, in an effort to determine the geology and groundwater quality of the lower zones, it is recommended that an additional well be installed into the lower aquifer. This well should ideally be located adjacent to MW-31 and be of flush-mount construction. Revise the Work Plan to include the installation of an additional well, in a cluster, near the MW-31 location. Ensure that the well is installed to prevent contaminant migration during installation (i.e., double casing, etc.) and collect continuous split-spoons samples during the installation.
- 3. An element of Task 3 includes screening with a PID during well installation and continuous split spoon collection and logging. This procedure was not adequately discussed in the Work Plan. It is not clear whether the PID screening will include only the headspace above the split-spoon or will include the collection of an aliquot of the sample in a jar for headspace screening and an additional aliquot for potential shipment to the laboratory. In addition, the Work Plan does not describe the criteria that will be used to define whether an area has elevated PID readings. The Work Plan also does not present the criteria that will be used to determine whether any of the screened samples with elevated readings will be sent to the laboratory for analysis in place of or in addition to those samples collected from the (approximate) 6-8 foot depth and/or the 11-13 foot depth below ground surface. Revise the Work Plan to address these concerns.
- 4. The Interim Corrective Measure (ICM) at Area 1 is currently being evaluated by Amphenol for effectiveness due to the seasonally elevated groundwater levels. This assessment should also be conducted with respect to the Forsythe Street area. Revise the Work Plan to discuss the groundwater elevations at Forsythe Street in relation to the seasonally adjusted elevations at Area 1. Identify whether the water column is currently different than would be expected throughout the year using the relationship of Area 1 and Area 3. Indicate any anticipated effects that the seasonal groundwater level may have on potential Interim Corrective Measures.

- 5. The Work Plan does not provide any procedures for evaluating the groundwater elevation against the elevation of the bottom of the sanitary sewer. Following the installation of the monitoring wells, and while surveying their casing elevation, determine the elevation of the bottom (invert) of the sanitary sewer at several locations along Forsythe Street. This information should be collected by removing manhole covers near each monitoring well location, and surveying the invert of the sewer pipe. Documenting the exact depth of the sanitary sewer with respect to the groundwater table may be beneficial in evaluating contaminant transport along the path of the sanitary sewer line. Revise the Work Plan to include this additional surveying.
- 6. Since the Unit B aquifer is reported to pinch off near Hurricane Creek, an additional well or soil boring(s) is suggested for southern Forsythe Street near the creek to better define the extent of Unit B. Revise the Work Plan to include additional investigation to evaluate the extent of the Unit B aquifer, potentially in conjunction with the investigation of Hurricane Creek.
- 7. The following discrepancies were identified in the Work Plan.
 - The Table 1 footnotes should be clarified to indicate whether one 1-liter glass jar will be used for hardness, alkalinity, TSS and TDS combined or whether one, 1-liter jar will be used for each parameter.
 - The holding time for Mercury is stated to be 14 days. The mercury holding time is generally 28 days when in conjunction with inorganics analysis, or alternatively 13 days for plastic containers and 38 days for glass containers for mercury alone. Revise the Work Plan to ensure that holding times appropriate for the specific glassware and analysis are presented and followed.
 - Table 1 indicates that two Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected. This should be clarified to indicate that only one MS/MSD for each media will be collected, however the sample will consist of two additional volumes of sample (triple-volume in total). Alternatively, if two separate MS/MSD samples are proposed, then indicate how the matrix interferences (i.e., percent recovery, precision, etc.) will be evaluated based upon the results of these two samples (i.e., which of the results will be used for evaluation). In addition, provide justification why VOC's are the only parameters for which MS/MSD samples are proposed or include all parameters.

Table 1 includes five samples for VOC analysis. The current Work Plan includes the installation of only four wells. It is assumed that the additional sample will be collected from MW-12 as proposed in Task 5. If this is an accurate assumption, clarify this discrepancy. If not, identify the source of the fifth environmental sample.

The A.T. Kearney Team fully agrees that the Forsythe Street sampling activity should be completed as expeditiously as possible. However we do feel that it is warranted to inform Amphenol of the deficiencies and discrepancies noted in the Work Plan, since many of the issues discussed include either modifications to the proposed investigation or suggest additional sampling. We welcome further discussion between yourself and Mr. Robert Young and/or Mr. John Koehnen of the A.T. Kearney Team regarding the nature of the comments and their presentation to Franklin/Amphenol.

Please feel free to contact me or the A.T. Kearney Work Assignment Manager, Mr. John Koehnen, at 312/223-6253 if you have any questions.

Sincerely,

Patricia M. Brown-Derocher

Regional Manager

cc: F. Norling, RPO EPA Region 5

W. Jordan/Central Files

J. Koehnen

R. Young

A. Williams

Amphenol

phenol Corporation

World Headquarters

358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

By Telecopy and Overnight Delivery

RECEIVED
FEB 1 2 1996

OFFICE OF RCRA WASTE MANAGEMENT DIVISION EPA, REGION V

February 9, 1996

Mr. Paul Little
Chief, MI/WI Enforcement Section
Enforcement & Compliance Assurance Branch
U.S. EPA, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Administrative Order on Consent dated November 27,1990

Franklin Power Products Co./ Amphenol Corporation (Respondents)

IND 044 587 848

Dear Mr. Little:

In accordance with the agreements reached at our meeting of January 31, 1996, I have enclosed a work plan and schedule for the performance of investigative activities leading to the preparation of a supplement to the Corrective Measures Study (CMS) report. We plan to include a report on the data collection activities as a technical memorandum attached to the Supplemental CMS report as an appendix. I trust this format will be acceptable. Pursuant to the above agreement, and upon approval of the enclosed plan, USEPA has agreed to rescind its imposition of all stipulated penalties, as described in its November 14, 1995 letter, as well as any other fines, interest or other penalties it may have sought to assess with respect to this particular matter.

The schedule is based on elapsed time rather than specific dates for compliance. This was done primarily to take into account the time it may take EPA to review and approve this work plan and potential timing problems which could result from our request to the City of Franklin to perform work in their right-of-way. Aside from these two matters, which are outside our control, we believe that the presented schedule is aggressive but achievable and is within the time frame discussed at our meeting.

Please contact me at (203)265-8760 if you have any questions regarding the enclosed.

Sincerely,

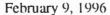
Samuel S. Waldo

Director, Environmental Affairs

Distribution:

- J. M. Jarvis, Franklin Power Products
- J. H. Keith, EarthTech
- W. Buller, USEPA
- T. Linson, IDEM
- S. Gard, Esq., Franklin Power Products
- P. Perez, Esq., Amphenol
- L. Johnson, Esq., USEPA

090.wpd



Sam Waldo Director, Environmental Affairs Amphenol Corp. 358 Hall Avenue Wallingford, CT 06492-7530

Subj: Work Plan and Schedule for Additional CMS Work on Forsythe Street

Dear Mr. Waldo:

This work plan describes the tasks and schedule to address ground water quality and subsurface conditions along Forsythe Street between Hamilton Avenue and Hurricane Creek in Franklin, Indiana (Operable Area 3 in the CMS report). The work will be undertaken pursuant to the understanding reached at our 1/31/96 meeting with EPA Region 5.

Description of Tasks

The tasks described below will address the following:

- 1. Levels of VOCs, metals, and total and amenable CN in Unit B ground water, particularly trichloroethene (TCE) and tetrachloroethene (PCE);
- 2. Levels of these constituents in subsurface soils;
- 3. Aquifer characteristics of the saturated portion of Unit B;
- 4. Physical characteristics of subsurface soils relating to possible corrective measures;
- 5. Other ground water parameters relating to possible corrective measures;
- 6. Locating and determining the elevations (if possible) of the intersection of the saturated portion of Unit B with the bed of Hurricane Creek;
- Completing a supplement to the CMS report addressing possible corrective measures in Operable Area 3.

Task 1 - Secure Necessary Permits for Off Site Work

A copy of this work plan will be forwarded to Mr. Rick Littleton, Superintendent of the Franklin Board of Public Works. Permission will be requested to install the wells described in Task 2 within the public right-of-way along the east side of Forsythe Street and Ross Court (see attached Figure). The Board generally meets on the second and fourth Tuesdays of the month.

Teleph ne

812.336.0972

Facsimile

812.336.3991

Task 2 - Install Ground Water Monitoring Wells

Four monitoring wells will be installed at locations shown in the attached Figure. Well MW-31 is placed near an apparent TCE 'hot spot" near PGP-9, about 200 feet north of the entrance to Ross Court (see CMS report, Appendix A, Sheet 6D). Wells MW-32 and MW-33 will ground water flow, and the potential for movement of contaminants beneath the Forsythe Street sanitary sewer. Well MW-34 will provide additional information about subsurface conditions between the "hot spot" and Hamilton Avenue. Well MW-31 may be constructed of 4-inch Schedule 40 PVC with 0.010-inch slotted screen for use in pump tests if the saturated zone is thick enough. Wells MW-32, -33, and -34 will be constructed of threaded 2-inch Schedule 40 PVC with 0.010-inch slotted screen. Ten-foot screen lengths were used at the RFI site, but because the saturated portion of Unit B will be shallower and thinner, we expect to use 5-foot screens for most wells. The determination of actual well size and screen length will be determined in the field, as will the final location of MW-34. Wells will be installed and developed as outlined in the IT Work Plan and the RFI/CMS QAPjP, except that a locking flush mount cap will be provided instead of a stickup protective cover. Cuttings will be drummed and returned to the Hurricane Road facility for storage prior to disposal.

Task 3 - Determine Subsurface Soil Conditions

Each of the four well borings will be continuously sampled by split spoon, screened with a PID and described by an Earth Tech geologist as outlined in the IT Work Plan and the RFI/CMS QAPjP. Two soil samples will be collected at each boring location, one from a depth interval that encompasses the sanitary sewer (approximately 6-8 feet), and one from just above the water table (approximately 11-13 feet). These sampling intervals may be revised in the field based upon screening results. Analyses of soil samples for VOCs, metals and cyanides will be conducted as outlined in the IT Work Plan and the RFI/CMS QAPjP. Table 1 summarizes all sample information for soils. Additional soils will be collected from the two sample intervals and submitted to a local geotechnical laboratory for grain size analysis (ASTM D-422).

Task 4 - Determine Unit B Aquifer Characteristics

1

Following installation of the monitoring wells, each well location will be surveyed, and the top of casing (TOC) and ground elevation will be determined. One round of tapedown measurements will be made at the four new wells, and on the Hurricane Road property (excluding the ICM pumping wells). We anticipate that ground water conditions along Forsythe Street may preclude the use of a full pump test at the four monitoring wells. If this is the case, we propose to use mini-rate pump tests using a data logger and pressure transducer as for the RFI. With the permission of the City of Franklin, pump water will be discharged into the sanitary sewer. Unit B hydraulic conductivity and transmissivity will be determined from the pump test data. Permeability will be calculated from grain size analyses conducted under Task 3. A Unit B contour map will be generated based on the tapedown results.

Task 5 - Determine Unit B Ground Water Quality

One round of ground water samples will be collected from each of the four new monitoring wells. To establish some continuity with the RFI site, we recommend collecting a set of water samples from MW-12 as well. Analyses of water samples for VOCs, metals and cyanides will be conducted as outlined in the IT Work Plan and the RFI/CMS QAPjP. Table 1 summarizes all sample information for ground water. Water samples will be collected unfiltered for all parameters, including metals and cyanides. The parameters Hardness, pH, alkalinity, conductivity, TDS, DO, TSS, Ca, Mg, Mn and Fe (no CLP-like data package) will be used in design considerations during the evaluation of possible corrective measures involving ground water treatment. DO, pH and conductivity will be measured by Earth Tech in the field.

Task 6 - Determine Relationship of the Saturated portion of Unit B With Hurricane Creek

Field observations suggest that the saturated portion of Unit B may discharge to Hurricane Creek near the storm sewer outfall. The bed of Hurricane Creek appears to be entrenched in Unit C between the Forsythe Street Bridge and the storm sewer outfall. The north bank of Hurricane Creek and the stream bottom will be investigated visually in an effort to determine:

- At what point on Hurricane Creek upstream from the storm sewer does apparent recharge from the north bank begin;
- · At what point on Hurricane Creek does the stream bottom begin entrenching into Unit C;
- At what point downstream is the base of Unit B above stream level, and is there apparent recharge from Unit B at this location;
- The stream bottom gradient between the storm sewer outfall and the bridge.

This information may or may not be obtainable, depending upon conditions along the creek. There are indications that Hurricane Creek has been channelized in the past. Excavating and spoil dumping may have obliterated stream bank features to the extent that Unit B and C contacts cannot be identified by simple observation. High water or bank-full flow conditions could also prevent the identification of bank features. If Earth Tech can locate these features, they will be flagged and the locations and elevations surveyed and related to other on- and off site features. The stream bottom elevations and gradient between the Forsythe Street Bridge and the storm sewer outfall will be determined in any case.

Task 7 - Prepare CMS Report Supplement for Operable Area 3

Possible corrective measures for Operable Area 3 will be proposed and evaluated based on knowledge about Forsythe Street gained during the RFI and the present field work. The supplement is a separate document, with figures, tables, sheets and appendices. It will be distributed with the CMS report by EPA Region 5 for public review and comment.



Reports

Monthly progress report will be submitted to EPA Region 5 by the 10th of each month beginning in March, 1996, through the completion and submittal of the draft report.

Schedule

See attached Table 2. The project will upon approval of this work plan by EPA Region 5, and upon the granting of a license by the Franklin Board of Public Works to install monitoring wells within the city right-of-way.

Very truly yours,

EARTH TECH

and H. Lill Project Manager

.

cc:

Larry Johnson, EPA Region 5

Sam Waldo, Amphenol Corp.

Mike Jarvis, Franklin Power Products

Susan Gard, SerVaas, Inc.

Thomas Linson, IDEM

Rick Littleton, Franklin Board of Public Works

Table 2. Proposed Schedule

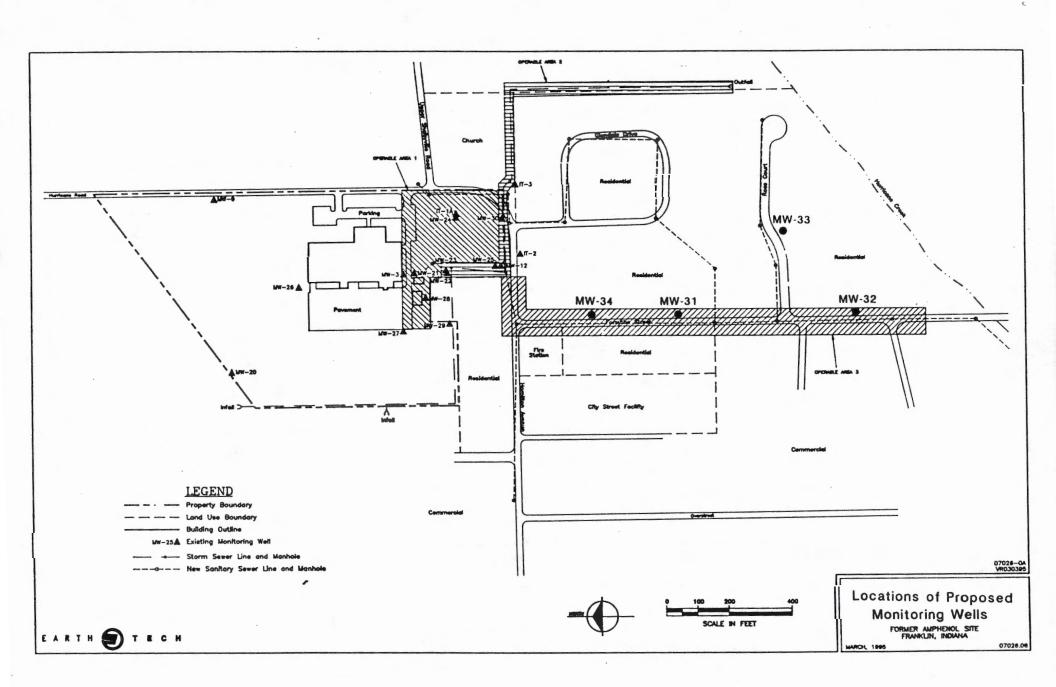
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^{* -} The project will begin only after EPA approval of the Work Plan, and completion of Task I

Table 1. Sample Summary

Matrix	No. Samples	Analysis/ Container	Blanks (eqpt./trip)	Dupes	MS/D	Preservative	Holding Time
Water	5	VOCs, 2-40 ml VOA	1/1	1	2	Cool 4° C; HCl pH<2	14 days
	4	Metals, l L poly (includes Ca, Mg, Mn and Fe)	1/0	1	0	Cool 4° C; HNO3 pH<2	6 mos, Hg-14 days
	4	Total CN, 1 L glass, Amenable CN, 1L glass	1/0	1	0	Cool 4° C; NaOH pH>12	14 days
	4	Hardness *	0/0	0	0	Cool 4° C	6 mos
		Alkalinity *				Cool 4° C	14 days
		TDS, TSS *				Cool 4° C	7 days
Soil	8	VOCs, 125 ml VOA	1/1	1	2	Cool 4° C	14 days
	8	Metals Total/Amenable CN, 1 L glass	1/0	1	0	Cool 4º C	metals 6 mos CN 14 days
	8	grain size (ASTM D-422), 1 L glass	0/0	0	0	none	none

^{* -} a sample for these parameters will consist of a 1L glass jar, cooled to 4° C; no preservative.





RZ2.R05033.01.ID.013

February 8, 1996

D.3.1

ATKEAR YEY

Mr. William Buller
U.S. Environmental Protection Agency
Region 5 - DRE-8J
77 W. Jackson Boulevard
Chicago, IL 60604

Reference:

EPA Contract No. 68-W4-0006; REPA Work Assignment No. R05033; Former Franklin Power Products/Amphenol, Franklin, Indiana; EPA ID No.IND044587848; Corrective Measures Study Conditions of Approval Meeting Summary (January 31, 1996); Task 02 Deliverable

Dear Mr. Buller:

This letter deliverable presents the Kearney Team's summary of the key elements of the meeting between the Franklin Power/Amphenol Representatives (Amphenol), U.S. EPA and General Council, and A.T. Kearney. The meeting occurred from approximately 1:00 pm to 4:00 pm on January 31, 1996. The focus of the meeting was to discuss the current site conditions at the Forsythe Street Area near the facility and to define the required corrective measures for the contaminated soils and groundwater.

The meeting attendees were:

- Plinio Perez Amphenol
- Sam Waldo Amphenol
- Jim Kieth Earth Tech (Amphenol's Contractor)
- Bill Buller U.S. EPA Region 5
- Larry Johnson U.S. EPA Region 5 General Council
- Paul Little U.S. EPA Region 5
- Rob Young A.T. Kearney
- John Koehnen A.T. Kearney

The initial focus of the meeting was the need for Amphenol to define the potential corrective measures for the Forsythe Street Area. This was noted as a major deficiency in the Revised Corrective Measure Study (CMS) Report which was submitted by Amphenol in late 1995. At this time limited investigation at the Forsythe Street Area have identified VOC contamination at levels over 200 times MCL's. U.S. EPA presented the position that while these data are limited to Geoprobe results, a range of corrective measures for the area could be evaluated. Also, U.S. EPA indicated that if additional data are required, these data requirements could be better focused if a corrective measure strategy was identified. This issue was discussed in detail. However, Amphenol representatives remained in at least partial disagreement.

Mr. William Buller February 8, 1996 Page 2

After extensive talks on the subject, a potential compromise was suggested. Amphenol would submit information on potential corrective measures, using assumptions where necessary. At this point a meeting was held between the U.S. EPA Personnel and the A.T. Kearney Team only. Several options were identified, with the most critical element being the progression of any corrective measure evaluation and selection without delay. A final compromise was reached by which Amphenol would be given additional time to perform investigative activities at the Forsythe Street Area. These activities would be limited to the collection of data to define the physical parameters of area soils and the characteristics of the area groundwater. Additionally, the collection of soils and groundwater samples for an extensive, but undefined, parameter list was agreed to, for use in defining the nature of the geologic and hydrogeological characteristics of the area. This would allow for a more detailed proposal of potential corrective measures and aid in defining the nature and extent of VOC contamination at the Forsythe Street Area. U.S. EPA also decided to eliminate a series of seasonal monitoring events proposed by Amphenol which would have significantly delayed the identification of corrective measures and potential interim measures.

The following general schedule was agreed to during the meeting:

- Amphenol will submit a schedule of implementation and summary of investigative tasks to U.S. EPA on February 9, 1996.
- This information will be reviewed by U.S. EPA and either approved as is, or with modifications (e.g., sample numbers, locations, media types, depths, etc.).
- Upon approval of the proposed investigation, Amphenol will initiate field activities at the earliest possible date, continuing investigations at the Forsythe Street Area until data requirements are met.
- The resulting data will be concurrently reviewed by the U.S. EPA and Amphenol to develop an appropriate corrective measure/interim measure for the Forsythe Street Area.
- Within 60 days of receipt (and transmittal to U.S. EPA) of the investigative data, Amphenol will submit a CMS Report addendum to U.S. EPA which will be considered the CMS for the Forsythe Street Area.
- Upon receipt of the Forsythe Street CMS Report, U.S. EPA will perform a technical review of the submittal and provide either approval of the document, a notice of deficiency or conditions of approval to Amphenol.
- Upon U.S. EPA approval of the CMS Report addendum, a Statement of Basis (SB) will be prepared by the Agency. After completion, the SB will be placed on public notice for review.

Mr. William Buller February 8, 1996 Page 3

The information presented above constitutes the Kearney Team's interpretation of the outcome of the meeting with Amphenol. In addition, since the CMS at the Forsythe Street Area will be submitted as an addendum to the existing CMS Report, it is suggested that U.S. EPA review the most recent deficiency comments on the revised CMS submitted by the Kearney Team on November 10, 1995, (Document Control Number RZ2-R05033.01-ID-008) since additional issues may be outstanding and may warrant review by U.S. EPA prior to approval of the Revised CMS.

Please contact me or the Kearney Team Work Assignment Manager, Mr. John Koehnen, at 312/223-6253, if you have any questions.

Sincerely,

Patricia Brown-Derocher Regional Manager

Patricia Braun Brocher

Enclosures

cc:

F. Norling, EPA Region 5

W. Jordan, Central Files

J. Koehnen

R. Young

A. Williams

Amphenol

phenol Corporation

358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

FEDERAL EXPRESS

December 15, 1995

Lawrence Johnson
Assistant Regional Counsel
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Administrative Order on Consent Dated November 27, 1990 IND 044 587 848 - Franklin, IN ("Site")

Enclosures: 1) Letter dated September 22, 1995 from S. Waldo (Amphenol) to W. Buller (USEPA)

 Copy of newspaper article in the Weekend Daily Journal, Johnson County, IN.

Dear Mr. Johnson:

On August 15, 1995 Mr. W. Buller of the USEPA sent a letter to Mr. S. Waldo (Amphenol) with comments on a draft Corrective Measures Study (CMS) for the above referenced Site. Mr. Waldo responded to Mr. Buller's concerns in a letter dated September 22, Amphenol did not receive any further communications from USEPA until November 20th when it received a letter from P. Little (USEPA Enforcement) seeking to subject Amphenol to stipulated penalties under the Consent Order. On November 30th Amphenol responded by invoking the Dispute Resolution, Reservation of Rights, and the Excusable Delays provisions of the Consent Order. Amphenol also expressed its disappointment that USEPA assessed penalties unilaterally, without consultation and without responding to repeated offers to meet and discuss any and all of the issues addressed in the revisions to the CMS. On December 8, 1995 Mr. Buller telephone Mr. Waldo and suggested that a meeting take place on December 19, 1995 to discuss this matter. Mr. Little in his November 20th letter and Mr. Buller in his phone conversation with Mr. Waldo have made it clear that the only substantive area of concern is Amphenol's "failure" to provide "sufficient remedy options" for the area along Forsythe Street.

Lawrence Johnson December 15, 1995 Page 2

Amphenol has certainly welcomed and encouraged informal discussions amongst the technical people. In fact, Amphenol strongly believes that an informal meeting is the only context in which meaningful progress can be made at the Site. However, in view of the formality of the communications that have been exchanged between the parties, Amphenol is concerned about the legal status, or lack thereof, of the meeting proposed by Mr. Buller. Specifically, we are at a point in which USEPA has sought to impose Stipulated Penalties. Amphenol has replied by invoking its right to dispute resolution and raising certain defenses. Under the Consent Order there is a thirty day (30) period for USEPA to attempt to resolve the dispute. Amphenol believes that this requires USEPA to provide an individual with technical knowledge, other than Mr. Buller, who can evaluate objectively the positions taken by Mr. Buller for the Agency vis-a-vis Amphenol's response. We believe that at such a hearing Amphenol should be represented by Counsel and its technical advisors. If this is the type of meeting USEPA is proposing, Amphenol is ready to schedule it at a mutually convenient date. Amphenol, however, would rather schedule an informal discussion between technical staff at this time. you are in agreement, we respectfully request that USEPA send us a letter indicating that the 30 day period for dispute resolution will be stayed until USEPA provides written notice otherwise.

Please understand that Amphenol's position has never been recalcitrant in any way. In fact, to the contrary, we have voluntarily installed an interim remedial measure at the plant. John Bonsett, the county's Director of Environmental Health, has been quoted as saying that Amphenol has been aggressive in trying to correct the problems at the Site and that he has been "highly impressed" with our efforts (see newspaper article enclosed.) Notwithstanding our heretofore cooperative demeanor, we firmly believe, and have been advised by our environmental consultants, that it is technically not feasible to propose remedial options at this time because we simply lack the data to propose a system that can address conditions along Forsythe Street in any meaningful way. This is why we have proposed the installation of permanent monitoring wells to assess constituent concentration and potential movement over time (see the enclosed letter for a detailed discussion.) In addition, there are very difficult access problems which may make it impossible to place a remediation system next to sewer lines which run under a street in a residential neighborhood.

Lawrence Johnson December 15, 1995 Page 3

Amphenol fails to understand the pressing nature of the requirement to propose remedial alternatives at this time, before we can gather the necessary data, in light of the fact that we have already concluded a risk assessment (RCRA Facility Investigation or RFI) which was approved by EPA on July 22, 1994. In Section 5.6 of the approved RFI, groundwater was determined to be an effectively incomplete pathway for human exposure, with minimal attendant risk. The results of the Supplemental Investigation performed along Forsythe Street did nothing to alter this conclusion (see Section 7.5 of the approved RFI.) In the face of this study Amphenol does not understand why Mr. Buller has communicated to us that USEPA is planning to send a letter to the neighbors along Forsythe Street unnecessarily alarming them about the "risks," or "dangers," that these constituents may pose to Amphenol is concerned that such a letter would create an atmosphere of hysteria and litigation in the neighborhood while contributing nothing to the safety of the residents. Amphenol strongly advises USEPA to consider the possible or likely consequences of such an action specifically when local officials have been copied and advised of the data generated at the Site and they have not indicated that such a letter would be necessary or Therefore, Amphenol requests that local officials participate in any meeting involving notification/information at the Site.

Thank you for your attention to this matter. If you have any questions or comments please contact the undersigned at 203/265-8638.

Very truly yours,

Minut

Plinio Perez

Associate General Counsel

PP/mss

cc: W. Buller

- S. Gard (w/encl.)
- P. Little
- G. Pendygraft
- S. Waldo
- E. Wetmore

TO



UNITED STATES ENVIRONME NATIONAL RISK MANAGEMEN SUBSURFACE PROTECTION P.O. BOX 1198 •

Post-It* brand fax transmittal r	memo 7671 #mf pages > 7
To Bill Bulley	From Steve Acree
CO. US CAA-ROS 5	CO. USEPAINEMEL
Dept.	Phone # 4.05-436-8609
Fax# 31 2-	Fax #
353-6519	,

December 5, 1995

OFFICE OF RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Amphenol Facility, Franklin, Indiana (96RC05-001)

Corrective Measures Study

FROM. Steven D. Acree, Hydrogeologist

Technical Assistance & Technology Transfer Branch

TO Bill Buller, RPM

U.S. EPA-Region 5

Per your request for technical assistance dated October 31, the referenced document has been reviewed. The report describes potentially applicable remedial technologies and alternatives for three Operable Units at the site. Capital costs and evaluations of above-ground treatment technologies were not reviewed in detail. In general, it appears that site conditions necessary to evaluate contaminant transport and tate processes/rates are not well defined, particularly in Operable Unit (OU) 3. Relatively little information regarding site hydrogeology and contaminant nature/distribution appears to be available for this part of the site. This lack of information impacts evaluations of applicable remedial options and technologies. The report notes a lack of information in this area. However, it does not appear that the installation of the three proposed monitoring wells will be sufficient to fill these data gaps. Detailed comments and recommendations regarding this issue and other concerns are provided below.

General Comments

1. Ground-water flow rates/directions and contaminant distribution, migration rates, and fate are not well defined in the area of Forsythe Street. The ground-water quality data available from Geoprobe samples indicate significant impact in this area. However, the extent of ground-water contamination is not defined. The report appears to assume that ground-water flow

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in this area is to the south and that contamination detected in samples from PGP-6, PGP-7, and PGP-13 is not related to site activities. These assumptions are not supported by site-specific data. Data are not available to define potential ground-water flow directions in OU-3. In addition, the geologic cross section through this area indicates the permeable materials in Unit B may be pinching out prior to reaching Hurricane Creek. This would indicate that ground-water flow may not be south in this area. Contamination detected at the Geoprobe locations west of Forsythe Street may be related to migration following release from the sanitary sewer line. Data from additional wells in this area would be required to define potential ground-water flow directions and contaminant transport and evaluate potential remedial options.

- Based on site history and contaminant concentrations in ground water there is a moderate to high probability that dense nonaqueous phase liquids (DNAPL) were released to the subsurface and may still be present. Depending on site conditions, such organic liquids may represent a major, continuing source for ground-water contamination that may be impracticable to remove. Site characterization was not conducted to provide data to evaluate potential DNAPL distribution in detail. This represents a major source of uncertainty in the evaluation of potential remedial options and technologies. It is recommended that all future investigations and remedial actions be conducted so as to acquire information relevant to DNAPL presence and potential. distribution. It is also recommended that all wells screened in Unit B in areas where chlorinated solvents may have been released he monitored for accumulations of DNAPL. Soil samples should be obtained during any additional well installations in potential DNAPL zones and screened for indications of DNAPL using such techniques as soil/water separation tests with hydrophobic dye, screening using an OVA, etc.
- 3. The vertical extent of ground-water contamination does not appear to be well defined. Data from relatively few borings were available to describe site stratigraphy and ground-water quality in units below Unit B. Depending on site conditions, DNAPL containing the contaminants found at this site may be relatively mobile in the subsurface and may be capable of migrating through units often considered to be aquitards. The information presented in this report was not sufficient to conclude that

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units deeper than Unit B are not currently impacted or will not be impacted in the future. It appears that additional investigations may be required to define the potential for vertical contaminant transport.

- 4 -Evaluations of the effectiveness of many remedial technologies and alternatives described in this document appeared to be cursory and highly subjective. Supporting data and calculations to justify the evaluations of many of the technologies presented in Table 5.2 were neither provided nor referenced. For example, vertical barriers such as a slurry wall were screened from further consideration without providing sufficient justification. Such technology may ultimately be applicable for improving containment around a source area such as a DNAPL zone in Unit B. Such containment may increase the potential for restoration in areas downgradient of a continuing source. Use of interceptor trenches/drains was also screened without providing sufficient rationale. It is recommended that more detailed justification for such screening decisions be provided for review. In addition, dewatering and use of soil vapor extraction as a method for source reduction/removal was not considered. It is recommended that this approach to source removal be evaluated.
- 5. It appears that the need for corrective measures to remove or control vapor-phase contamination was not considered in the referenced document. Contaminants may volatilize from a NAPL source in the vadose zone or from contaminated ground water. It is not clear whether transport of such contamination and risks to nearby residential areas were considered in previous documents. It is recommended that such contamination be evaluated and remedial measures proposed, as warranted.

Specitic Comments

6. Sections 3.6.1 and 5.1, p. 15 and 23

The report states that PGP-6, PGP-7, and PGP-13 are upgradient from the Amphenol facility and that contamination detected at these locations is not related to the plume from the facility. The available data do not appear to be sufficient to support these conclusions. Ground-water flow directions in this area are not well defined. Data from additional wells/piezometers in this area would be required to support such

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conclusions. In addition, DNAPL transport in the subsurface may be highly complex and may occur in directions that are hydraulically upgradient from the release points. Such transport may result in aqueous-phase contaminant distribution that is different from patterns that would be expected from other more conventional contaminant sources.

Section 4.8, p. 21

Insufficient information was provided to evaluate the effectiveness of the current ground-water extraction system. Data provided in Table 4.1 indicate relatively minimal drawdowns. Cursory examination of these data indicate that the effectiveness of this system in lowering ground-water elevations below the level of the storm sewer and in preventing migration of ground-water from this area is questionable. It appears that additional monitoring of existing wells and, possibly, additional well/piezometer installation would be required to demonstrate effectiveness of this system. It does not appear that the five wells suggested as monitoring points in the report will be sufficient to fully define ground-water capture in this area.

8. Section 5.2.5.1.2, p. 27

The report indicated that excavation of all contaminated soils would probably not be feasible. Sufficient data were not available to fully evaluate this conclusion. In general, in situ technologies for DNAPL removal below the water table are not proven effective at restoration to background conditions. Excavation and ex situ treatment represent the only approach applicable for attempting restoration at many DNAPL sites. However, even these technologies may not be effective due to an inability to define DNAPL distribution in detail or excavate all impacted soils. Limited excavation of impacted soils is discussed and may be applicable for a contaminant mass reduction objective if such areas are better defined during future investigations.

9. Section 5.2.5.2.3, p. 30

Air sparging is discussed and, ultimately, incorporated into several remedial alternatives. It appears that this technology is proposed for both source reduction/removal and prevention of further migration of contaminated ground water. In general, the effectiveness of air sparging for these remedial objectives is not well defined, particularly for sites where DNAPI, may be

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present. Studies indicate that air sparged into the saturated zone tends to establish and travel in discrete pathways. As such, the air may not contact much of the soil and ground-water in the sparging zone, limiting the effectiveness of this technology. This limitation may be compounded at a site where DNAPL exists in the saturated zone. The air would tend to be diverted by small changes in the permeability of site materials and may be deflected around lower permeability features above which DNAPL may be trapped. As with any in-situ technology, the limitations are site specific and may require an extended pilot study to evaluate the potential effectiveness.

10. Section 6.5, p. 44

The evaluation of the effectiveness of this alternative in meeting corrective action objectives appears to be overly optimistic. As previously noted, the effectiveness of the current ground-water extraction system has not been demonstrated and the effectiveness of the proposed air sparging system may be limited by site conditions and other factors.

11. Section 8.0, p. 47-50

The recommended alternative does not include technologies for capture of contaminated ground-water in the Forsythe Street area. Potentially applicable technologies may include ground-water extraction using wells, well points, or drains and incorporation of physical barriers to ground-water flow. Sufficient information is currently not available to define ground-water flow and contaminant transport/fate in this area and evaluate such remedial options in detail. In addition, it does not appear that the three proposed monitoring wells will be sufficient to fully define contaminant distribution in this area. At a minimum, it is recommended that additional wells be installed west of Forsythe Street to provide potentiometric information and determine whether contaminants detected in Geoprobe samples are related to facility operations. Depending on the information currently available, additional information regarding hydraulic properties may also be needed to evaluate remedial system designs.

12. Section 8.2, p. 48

Semiannual monitoring of ground-water elevation/quality and surface water quality is proposed during performance of the proposed corrective action. In general, a greater frequency for

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ground-water elevations should be proposed until site conditions and temporal variations are better defined. It is suggested that monitoring on a monthly or quarterly basis be considered as a minimum until sufficient data are available to better define site hydrogeology and effectiveness of the current extraction system.

13. Section 8.2, p. 49

The report suggests that the current extraction system will be effective in reducing contaminant concentrations in soils over time. Insufficient data regarding contaminant nature and distribution have been acquired to support or evaluate this conclusion. Assuming ground-water contamination is sourced primarily by DNAPL in the saturated zone, the current extraction system may be relatively ineffective in removing contaminant mass or reducing concentrations in a reasonable time frame.

14. Section 8.2, p. 50

The report suggests that sufficient data will be collected to evaluate natural attenuation processes which may be effectively reducing contaminant concentrations in the subsurface. In general, much more information than the proposed data collection efforts would be required to define the roles of such processes at this site. Intrinsic remediation of the compounds of concern at this site is an area of continuing research.

If you have any questions concerning these comments, please do not hesitate to call me at your convenience (405-436-8609). Two tast sheets concerning assessment of sites where DNAPL may have been released are included for your information. We look forward to future interactions with you concerning this and other sites.

cc: Vern Myers (5303W)
 Thad Slaughter, Region 5
 Carol Witt-Smith, Region 5



Amphenol Corporation

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

CERTIFIED MAIL RETURN RECEIPT REQUESTED

November 30, 1995

Mr. Paul Little Chief, MI/WI Enforcement Section Enforcement & Compliance Assurance Branch U.S. EPA, Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

Re: Administrative Order on Consent (AOC) dated November 27, 1990

Franklin Power Products Co./ Amphenol Corporation (Respondents)

IND 044 587 848

Dear Mr. Little:

On November 20, 1995, I received your letter dated November 14, 1995 disapproving the revised Corrective Measures Study (CMS) report for the subject AOC. The Respondents are disappointed that EPA has not responded to our repeated offers to meet and discuss any and all of the issues addressed in the revisions to the CMS and, instead, has chosen to formalize its disapproval unilaterally and without consultation with the Respondents, by invoking the stipulated penalty provisions of Section XVII.1.c. of the AOC. In order to protect their rights under the AOC, the Respondents are, therefore, invoking the Dispute Resolution provisions of Section XVIII of the AOC. Furthermore, the Respondents reassert the Reservation of Rights as provided in Section XX and the Excusable Delay provision as provided in Section XIX of the AOC.

In the September 22, 1995 response to EPA's original comments on the CMS, we acknowledged that there might continue to be outstanding issues and concerns on the part of EPA and we reiterated that we were available to meet and more fully discuss those issues at EPA's convenience. Although we strongly believe that those discussions would have been more fruitful if undertaken in an informal setting, we remain available to participate in substantive conversations. Without delving into the specific items noted in your letter, we believe that those comments can be broken into three general categories:

1. Comments which Respondents may have interpreted differently than EPA had intended;

Mr. Paul Little November 30, 1995 Page 2

- EPA requirements that may not be technologically feasible due to the status of the database which prevents one from drawing meaningful conclusions or developing sound engineering estimates;
- Comments where EPA may be requesting that the Respondents perform additional investigative activities outside the scope of the approved RCRA Facility Investigation Work Plan and Report.

Throughout this process, Amphenol and Franklin Power Products have endeavored to work proactively with EPA and Indiana DEM. As you may know, various actions, including investigations and remedial activities, have been undertaken voluntarily at this site since the early 1980's and preceding the AOC currently in place. Most recently, in early 1995 the Respondents installed interim remedial measures at the site to initiate ground water recovery and treatment in advance of any corrective measures arising from the RFI/CMS process. This, of course, was done at the Respondents risk. Notwithstanding the aggressive posture taken initially by EPA, the Respondents trust this matter can be resolved without unnecessary legal maneuvering, and that they can continue to address conditions at the site in a spirit of mutual cooperation.

We look forward to hearing from you shortly to set a time for a meeting. In anticipation of the issues to be raised at that meeting, however, we would request that all agency personnel who provided input to the comments on the CMS be available to discuss those comments and to respond to questions from our technical consultants. In this way we can have a clear and complete discussion of the issues, while minimizing the opportunities for additional misunderstandings.

Please contact me at (203)265-8760 if you have any questions on the above or to schedule a meeting.

Sincerely,

Samuel S. Waldo

Director, Environmental Affairs

074.wpd

CC:

J. M. Jarvis

S. Gard, Esq.

P. Perez, Esq.

G. Pendygraft, Esq.

P. Andrews, Esq., USEPA

M. Sickles, IDEM

SENDER:			
Complete items 1 and/or 2 for additional services. Complete items 3, and 4a & b. Print your name and address on the reverse of this form so that we can return this card to you.		I also wish to receive the following services (for an extra fee):	
Attach this form to the front of the mailpiece, or on the back does not permit. Write "Return Receipt Requested" on the mailpiece below the art	1. Addressee's Address		
The Return Receipt Fee will provide you the signature of the persto and the date of delivery. 3. Article Addressed to:	on delivered	Consult postmaster for fee.	
MR. Samuel S. Waldo	PAI	cle Number 54 656 874	
Director of Environmental Affairs Amphenol Corp.)	Regis	vice Type Insured	
358 HALL Avenue	Certif	ess Mail Return Receipt for	
P.O. Box 5030 Wallingtond, Conn 06492-753	7. Date	of Delivery	
5. Signature (Addressee)	8. Addre	essee's Address (Only if requested	
6. Signature (Agent)			
PS Form 3811 , November 1990 Ø.s. GPO: 1991–287-	066 DO	MESTIC RETURN RECEIPT	

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CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Samuel S. Waldo
Director of Environmental Affairs
Amphenol Corporation
358 Hall Avenue
P.O. Box 5030
Wallingford, Connecticut 06492-7530

HRE-8J

Re: Administrative Order On Consent dated November 27,1990 Franklin Power Products Co./Amphenol Corporation IND 044 587 848

Dear Mr. Waldo:

The United States Environmental Protection Agency (U.S. EPA) has received your letter dated September 22, 1995, and the revised Corrective Measures Study (CMS) report (dated September 1995) submitted in accordance with the above referenced Administrative Order On Consent (AOC). U.S. EPA has reviewed the revised CMS report and hereby disapproves the report. Certain revisions that were called for in U.S. EPA's letter of August 15, 1995, were not satisfactorily addressed, specifically general comments 1,2,3,4,6, and specific comments 6,7,10,15,16,17. Most critically, general comment 3 was not properly addressed. This comment specified that a detailed discussion of a groundwater extraction system for the contaminated area at Forsythe Street (Operable Area 3) be provided. This discussion was not provided.

Paragraphs A. and B. of Attachment I of the above referenced AOC specify that the CMS develop and describe corrective measures alternatives for remediation of contamination that adequately address all site problems and corrective action objectives. Due to your failure to provide in the revised CMS report, sufficient remedy options for an area which has significant contamination, and failure to provide other revisions to the CMS report as specified by U.S. EPA, Respondents are deemed to be in noncompliance of the AOC. Thus, pursuant to Section XVII.1.c. of the AOC, Respondents are subject to stipulated penalties as provided therein and the penalties are accruing starting with the date of receipt of this letter, and will continue to accrue at the rate of \$500 per day for the first one to seven days, and \$1000 for each seven-day delay, or part thereof, until this matter is resolved.

To discuss this matter or to arrange a meeting, please call Bill Buller of my staff at (312) 886-4568.

Sincerely,

Paul Little, Chief MI/WI Enforcement Section Enforcement & Compliance Assurance Branch

cc: J. Michael Jarvis, Franklin Power Products Michael Sickels, IDEM

bcc: Larry Johnson, ORC

AUTHOR'S FILE COPY

Amphenol

hphenol Corporation

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

September 22, 1995

Mr. William Buller US EPA, Region V HRE-8J 77 West Jackson Boulevard Chicago, IL 60604-3590

Re: Corrective Measures Study (CMS) Draft Report Administrative Order on Consent (AOC) Franklin Power Products/Amphenol Corporation IND 044 587 848

Dear Mr. Buller:

I am in receipt of your letter of August 15, 1995 (received on August 24, 1995) which included comments on the March 1995 Draft CMS Report. Specific responses to the comments raised by the USEPA, as well as a revised draft report, have been prepared by our consultant EARTH TECH, and are enclosed.

There are, however, several issues raised by the USEPA comments which may require additional discussion. I have outlined those issues below and have included a summary of our position on those matters. Once the USEPA has had an opportunity to review our position, it may be appropriate to schedule a meeting to further clarify future activities at the site.

1. The USEPA had included several comments suggesting that a "proper risk assessment" would be necessary to preclude further discussion of remedial measures in certain areas (e.g., VOC's and inorganic constituents in soil). We are concerned about the scope of this request. While we recognize that Paragraph B.1.c of Attachment I to the AOC requires that the Respondent assess each alternative in terms of the extent to which it mitigates short and long term exposure, it is equally clear that this assessment be in the context of the risk assessment performed as part of the RCRA Facility Investigation (RFI). That assessment was reviewed and approved as part of the overall RFI by letter from the USEPA dated July 22, 1994. Both VOC's and inorganic constituents in soil were addressed in that assessment. At the USEPA's request, in a submittal dated January 1995, additional modifications were made to the RFI Report to include supplemental work performed on Forsythe

Mr. William Buller September 11, 1995 Page 2

Street. The risks associated with those findings were also discussed in that addendum. Our revisions to the CMS Report, therefore, will clarify any human health exposures pursuant to Paragraph B.1.c., but will not include additional risk assessment activities.

- 2. The USEPA may have been premature in questioning the effectiveness of the interim corrective measures at the Site. The data included in the draft CMS Report were themselves preliminary, having been collected during the first few weeks after start up. As with any newly installed treatment system, it can take some time for the system to run efficiently. Any consequent effects on the ground water would also take some time to manifest themselves. Furthermore, as noted in the attached responses, this summer has been one of the wettest in recent memory, with water table elevations on the Site almost four feet higher than previous readings. This condition may have also masked drawdown by the system. The O & M plan for the system includes the routine collection of water table elevation readings from selected monitoring wells. As this database develops, we should be able to make a more accurate assessment of water table drawdown.
- In its comments, the USEPA has suggested that there is sufficient information in the 3. record to evaluate remedial alternatives for the area along Forsythe Street. We disagree, both with the conclusion that the data are sufficient to direct a remedial alternatives evaluation and with the more basic premise that, given the conclusions of the RFI risk assessment, such an evaluation is necessary. Although the data collected to date have identified elevated levels of VOC's on Forsythe, the limited physical data collected during the investigation suggest that there is little water in the zone of investigation to give those constituents mobility. (If the sewer system were experiencing significant rates of exfiltration over the long period of time in question, there should have been some evidence of highly wetted soils in the samples collected.) Rather than proceeding with this limited database to an evaluation of alternatives, we have proposed the installation of permanent monitoring wells with routine monitoring to assess constituent concentrations and potential for movement over time. Once these data are collected, a more reasoned assessment of the remedial needs of this area, if any, can be made.
- 4. In its cover letter, the USEPA referred to the June 14, 1994 Supplemental Work Plan for collecting data in Hurricane Creek during no flow conditions and its apparent concern that follow up on this activity had been neglected. While a more complete response is included in the attachment to this letter, I would reiterate that we fully intend to complete this work, should appropriate conditions arise. Note that we are becoming more convinced that an apparent interception of Unit B with Hurricane Creek below the storm sewer outfall would probably preclude that portion of the creek from completely drying out. With respect to the USEPA's comment that failure

Mr. William Buller September 11, 1995 Page 3

to submit progress reports might constitute violation of the terms of the AOC, we would note that in Section 6.3.4.1 (Progress Reports) of the USEPA approved CMS Work Plan, it is stated that progress reports will be submitted monthly during the implementation of Tasks 1, 2 and 3. The Work Plan did not envision continued preparation of progress reports after submittal of the CMS report. In our last progress report prior to submitting the draft CMS Report to the USEPA, we indicated that no further progress reports would be submitted. Absent any response from the USEPA and considering USEPA's approval of the CMS Work Plan, we assumed tacit concurrence. We certainly are available to discuss this matter and the more fundamental issues regarding this work as discussed above and in the attachment.

I trust that our responses to the USEPA comments will address most of your concerns. I recognize, however, that there may continue to be some outstanding issues. With that in mind, we are available should you desire to discuss these matters more fully. Should such a meeting be appropriate, please contact me so that I may make arrangements with the various parties who should attend.

Sincerely,

Samuel S. Waldo

Director Environmental Affairs

059.wpd



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

CERTIFIED MAIL RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

Mr Samuel S. Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford Connecticut 06492-7530 Recuerde HRE-8J 8/24 (95

Re: Corrective Measures Study Draft Report

Administrative Order on Consent dated November 27, 1990

Franklin Power Products/Amphenol Corporation

IND 044 587 848

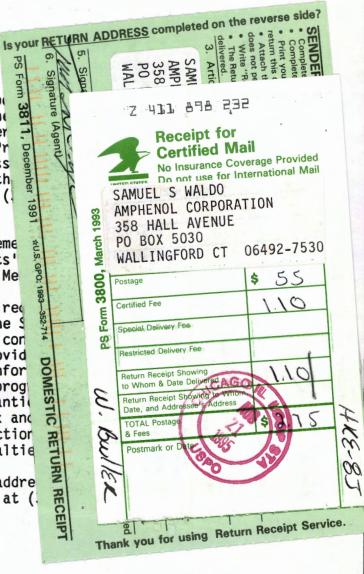
Dear Mr. Waldo:

The draft Corrective Measures Study (CMS) reposubmitted by Franklin Power Products and Amphewith the above referenced Administrative Order reviewed by the United States Environmental Procertain issues remain which need to be address approved. A revised report which addresses the this letter shall be submitted within thirty (letter.

U.S. EPA recognizes the benefits of the impleme extraction and treatment system at Respondents' is not construed to be an Interim Corrective Me

U.S. EPA's letter of November 28, 1994, required sampling data collected in accordance with the S June 14, 1994, are not available because dry converification of such conditions should be provide subsequent monthly progress reports. This informether the CMS report or the February-March progrestated that no further progress reports are anticontended to the information pertaining to Hurricane Creek and reports may be construed as violations of Section referenced AOC and subject to stipulated penalties

It is essential that the revised CMS report addre I. If you have any questions please call me at (



Sincerely, William Buller

William Buller, Project Manager Technical Enforcement Section #1

cc: Michael Sickels, IDEM

J. Michael Jarvis, Franklin Power Products

bcc: Larry Johnson, ORC

ATTACHMENT 1

U.S.EPA Review Comments
Draft Corrective Measures Study Report
Franklin Power Products/Amphenol Corporation

The revised pages shall be identified by the revision date and the revised portions highlighted or shaded.

General Comments

- 1. The water level data indicates that the groundwater extraction system as currently operated causes minimal drawdown and may not fully prevent contaminated groundwater from entering the storm sewer. Further, it is questionable that the existing extraction system can effectively withdraw the contaminated groundwater that extends west of recovery well RW3. Sufficient data shall be presented to establish that the existing extraction system is achieving maximum effectiveness and capturing the full extent of the contaminant plume, or additional wells proposed and/or the pump rates adjusted accordingly. This data shall include pump tests of each recovery well and data analysis in accordance with published procedures for aquifer testing.
- 2. The information pertaining to the treated groundwater discharge which was submitted to U.S. EPA in the letter dated July 21, 1995 shall be included in the report. Reports of any inspections of the sanitary sewer system located at Forsythe Street, results of the proposed July 1995 metal analyses of the effluent water, and a copy of the appropriate State regulations on air emissions, should also be included. The text should provide a brief discussion of the discharge rate and the constituent concentrations of the treated water, and the flow capacity of the city sewer system.
- 3. The report implies that their is insufficient data to discuss remedies for the contaminated area at Forsythe Street (operable area 3). U.S. EPA does not agree with this conclusion. The inferred extent of soil and groundwater contamination is illustrated in the RCRA Facility Investigation (RFI) report and data for the on-site extraction system provides some insight to hydrologic conditions for this area. Remedies for this area, including a groundwater extraction system, shall be discussed. The discussion shall include a pilot test system consisting of at least one extraction well with temporary storage, potential expansion of the system with pipeline construction or other appropriate means of treatment /disposal. The anticipated drilling methods, methods to minimize the disruption such as below ground construction, and estimated cost of the system, shall be included in the discussion. The report should also explore innovative technologies to remediate this area.

Since data for the Forsythe Street area was submitted in increments, all data pertaining to the Forsythe area, including concentrations of all analityes (detected and non-detected, filtered and unfiltered samples), sampling depths, bore hole logs, and any other appropriate data, shall be included in the revised report.

- 4. VOC soil contamination at the 12 foot depth level is indicated for the residential site immediately south of the facility. Unless this contamination can be shown to be an acceptable risk by a proper risk assessment, remediation of this area shall be explored and discussed.
- 5. The rationale for the operating area delineations is not clear. For example, the adjacent areas of 1 and 2 appear to addressed as a single area in the remedy discussions.
- 6. The text should discuss the volatile organic compounds (VOC)s that were analyzed for and not detected.
- 7. The discussion on inorganic constituent concentrations in soils needs to be expanded. Separate data summaries for both background and impacted areas shall be provided. The summaries shall include maximum, minimum, average concentrations, and appropriate depth increments. A proper risk assessment which assesses the total accumulative risk of all inorganic constituents in soils should be performed. Unless the risk assessment shows that the constituents do not present an unacceptable risk, remediation of inorganic constituents in soils shall be discussed.
- 8. Groundwater monitoring of zone D should also be discussed.
- 9. So as not to impact data obtained from boreholes or impede remediation, it is recommended that the use of fluids during drilling operations be avoided if at all possible.

Specific Comments

- 1. Section 2.3 Sheet 4A of the RFI report shows unit C to be about 25 feet thick and unit D to be about 17 to 20 feet thick, rather than the 30-35 foot thickness (unit C) and 12 foot thickness (unit D) stated in the text. The discrepancies should be clarified.
- 2. Section 3.3.1 Refer to general comment 7.
- 3. Section 3.4.2 The statement "aluminum, cobalt, iron, lead, and manganese exceed "ARARs" but are considered to be normal background concentrations" should be verified by comparing statistically developed background groundwater data to downgradient data. The extraction system's impact on metal constituents in groundwater should be discussed.
- 4. Section 3.5 The text should discuss comparative constituent concentrations of the sediment sampling points, i.e., storm sewer outfall data to the infall data, and Hurricane Creek upstream data to downstream data. The sampling locations should be noted on Table 6.
- 5. Section 3.6.1 Sampling point PGP 10 is not an upgradient location, the text should be revised accordingly.
- 6. Section 3.6.2 The text should include a brief discussion on possible groundwater contamination at Hurricane Creek due to the storm drain discharge and the additional sampling to be performed (June 14, 1994, Supplemental

Workplan).

- 7. Section 3.7.1 1st & 2sd paragraphs The test notes that the area at the southwest corner of the plant building has contamination believed to have resulted from surface contamination, the impact of this contamination on human health and the environment should be discussed.
- 8. Section 3.8, 3rd paragraph, 1st sentence The statement "metals and cyanide concentrations in the groundwater and soil are consistent with background concentrations should be supported by appropriate data, or the text revised accordingly.
- 9. Section 5.1, last paragraph of section The RFI has not established that VOCs found in groundwater at sampling points PGP 6,7, 10, and 13 are not derived from the facility. The sentence: "Corrective Measures will not address these off-site impacts" should be deleted.
- 10. Section 5.2.1, page 23 The entire residential area downgradient of Respondents' facility and extending to Hurricane Creek should be covered by institutional controls, text or figures should be revised accordingly.
- 11. Section 5.2.1, page 24 See specific comment 1 concerning lithologic unit thicknesses. Also, the statement that unit C is not impacted should be verified by referencing appropriate RFI data.
- 12. Section 5.2.2.3 (and 5.2.3.3, 5.2.4.3 and 6.3.1) The statement "investigation of potential air impacts were not required by Consent Order" is not consistent with Section III of the AOC and should be deleted.
- 13. Section 5.2.3.1 As noted in the general comments, the designation of the operable areas may be misleading. The off-site portion of the storm drain is delineated as Area 2, however minimal additional data is provided nor do the alternative remedies focus on this area.
- 14. Section 5.2.4 The statement "there is little basis for selecting response actions" should be deleted.
- 15. Section 5.2.4.1 The conclusion that corrective action is not needed for soils at area 3 should be supported by a risk assessment which incorporates all exposure routes and appropriate site specific assumptions. See comment number 17.
- 16. Section 5.2.4.2 Ground water extraction and treatment should be included as a response action for the Forsythe Street area.
- 17. Section 5.2.4.3 The need for restricted entry in sewer manholes due to VOC contamination is noted in this section which suggests that there may be some potential for VOCs to enter basements at the residential area adjacent to Forsythe Street. This matter shall be addressed by performing a risk assessment in accordance with U.S. EPA guidelines. If an unacceptable risk is indicated, remedies to address this matter shall be discussed.
- 18. Section 5.3.2 Groundwater monitoring should be expanded to include a semi-annual sampling program.

- 19. Section 6.3.1 A horizontal soil vapor extraction (SVE) system may provide a greater area of treatment, this modification to the SVE remedy alternative should also be discussed.
- 20. Section 6.6.1 Alternative 6 is presented as an relatively effective alternative remedy in the report and also has a lower cost estimate than some of the other alternatives, however it is not the alternative proposed. Disadvantages of this alterative might be discussed so as to explain why this remedy is not proposed.
- 21. Section 8.2, page 49, 2sd paragraph The first sentence should be deleted and the text revised as to general comment 3.

Responses to U.S. EPA Comments, Draft Report,

Corrective Measures Study for the Former Amphenol Facility,

Franklin, Indiana, March, 1995

General Comment 1. The three withdrawal wells are being operated on a full-time basis and water level measurements are being gathered on a routine basis. A potentiometric contour map dated July 27, 1995 provided by Wehran Emcon depicts groundwater elevation data collected on June 19, 1995. The map indicates that the groundwater extraction system installed as an ICM is significantly affecting the flow of groundwater through the site, and does capture impacted groundwater west of RW-3. Figure 1 attached to this explanation of responses has been modified to show the extent of the VOC impacted groundwater as identified in RFI Sheet 6E, and to indicate the flow of groundwater perpendicular to the potentiometric contour lines. This figure demonstrates that at the combined pumping rate of 14.7 gpm, the westernmost portion of the plume is captured by RW-1 and RW-2. The overall groundwater level is significantly higher than anticipated due to unusually high rainfall in 1995, and under the current pumping scenario, the groundwater level is still above the invert of the storm sewer. It is anticipated that as recharge from precipitation decreases, the groundwater level will continue to fall at the present groundwater extraction rates, resulting in a groundwater elevation below the storm sewer invert. If recharge rates return to normal, then the rate of groundwater drawdown at all three extraction wells could be increased.

A memorandum from Wehran Emcon dated December 20, 1994 was transmitted to U.S. EPA presented the results of two-hour and 24-hour pump tests of RW-2 conducted on October 5 and 6, 1994 at pumping rates between 4.0 and 4.4 gpm. The results of this test clearly indicate drawdown at MW-12 and IT-2, located 23 and 67 feet from RW-2, respectively. Aquifer transmissivity and storage coefficients were calculated from these results for use in designing the ICM. See reply to General Comment 2.

Please note that pump tests were performed at MW-12 and MW-24 during the RFI, and that transmissivity and hydraulic conductivities were calculated based on those data (see Section 3.4 and Appendix F of the approved RFI report).

General Comment 2. When the draft CMS report was submitted, there were limited data available for the ICM. Since that time, additional operating and performance data have been gathered. Section 4.0 of the CMS report is updated to include the additional data from the ICM. Specifically, this includes data pertaining to treated water discharged to the sanitary sewer system (submitted by Respondents in a letter to U.S. EPA dated July 21, 1995), and the metals analysis of July, 1995. A copy of 326 IAC 2-1-1 governing permit requirements for discharge of VOCs to the air is included in an appendix to the report.

General Comment 3. It is the Respondents' position that there are insufficient field data to effectively evaluate remedies for Area 3; however, Section 5.2.4.2 of the CMS report has been revised to discuss remedial technologies which might be appropriate for this area. Specific data needs that will be addressed to select, design and implement appropriate remedial technologies are also discussed. These include concentrations of constituents in soil and groundwater media, media characterizations, and constituent mobility. Because of the lack of necessary field data, remedial alternatives have not been developed and costs have not been estimated in the CMS report.

All additional Forsythe Street data were submitted as requested by the agency and are found in the text and Appendixes of the approved RFI report. However, Tables 3 and 8 in Appendix A of the

Draft CMS report do not include data added in RFI addenda. The submitted CMS report includes revised Tables 3 and 8 that incorporate all data added by addendum.

General Comment 4. VOC soil contamination at the 12 foot depth for the residential site immediately south of the facility is shown on Sheet 5A of the approved RFI report. However, soil impacts beneath the adjacent residential property are inferred from data derived from soil borings and monitoring wells installed on the facility property. The risk assessment conducted as part of the approved RFI report concluded that under current site conditions, it is unlikely that significant exposure to VOC impacted soil could occur, even if impacted soil is present on the residential property. Any impacted or potentially impacted soils are overlain by a minimum clean cover of 12 feet, minimizing the potential for dermal contact. In addition, the soils having the highest impact from VOCs are in the saturated zone of the Unit B aquifer, and typical residential construction will not extend below the water table. In addition, groundwater extraction and treatment using the ICM will promote flushing of this area of impact.

General Comment 5. Operable areas are distinguished by differences in impact locations; impacted media, characteristics of potential contaminant pathways, and physical and legal constraints on access to media. Area 1 comprises contaminated Unit B media within the site boundaries of the former Amphenol facility. Area 2 comprises the storm sewer (both on and off site) and the contaminated water it conveys to Hurricane Creek. The boundary between the two is defined as the walls of the storm sewer, as that is the point at which incoming contaminated Unit B media (groundwater) becomes, in effect, surface water flowing through a subsurface conduit. Area 3 consists of contaminated Unit B media located along Forsythe Street. Area 3 is distinguished from Area 1 by differences in land use, ownership, ease of access to contaminated media and the diminished saturated thickness of Unit B.

Groundwater extraction and treatment has been incorporated into each of the proposed remedial alternatives (with the exception of the No Action alternative). Since extraction and treatment will affect water in both Areas 1 and 2, there has been some combining in the discussions of remediation alternatives.

General Comment 6. The approved RFI report already provides a detailed discussion of organic and inorganic analytes, and Appendix I of that report lists the analytes used in the study. Discussing VOC analytes that were not detected in the RFI study does nothing to enhance the CMS report or assist in the evaluation of remediation alternatives.

General Comment 7. Analytical results for inorganic constituents in soil borings are discussed in Section 4.4 of the approved RFI report and in Section 3.3.1 in the draft CMS report. The inorganic constituents arsenic, beryllium and cobalt are found in subsurface soils in concentrations that exceed ARARs and the approved RFI report indicated that those inorganics are naturally occurring in the area. At some locations, manganese occurs above its ARAR as defined in the RFI report; however the most conservative ARAR for this metal was derived from RCRA Subpart S guidelines, which now may not be acceptable (September 2, 1993 correspondence from Joseph M. Boyle to J. Michael Jarvis). There are several indications that the presence of the inorganics at the concentrations measured are not a result of activities at the facility, but represent natural levels of these constituents in native soils:

1) A statistical evaluation of upgradient and downgradient values of these metals in soils determined that there is no significant difference between the mean values of the available data from the two

- areas at a 95 per cent level of confidence. Attachment 1 provides a description of the statistical evaluation.
- 2) Of the four inorganics detected above ARARs in soils, only arsenic and cobalt have had general use in plating solutions: arsenic as a component of brighteners used in silver plating, and cobalt as an alloying agent in certain plating bath anodes (copper and tin). If constituents found in soil samples were associated with these plating baths, however, the concentration of the associated metal (e.g., silver, copper or tin) would also be comparably elevated. Silver, for instance, is much more soluble than arsenic and should, therefore, be found in much higher concentrations than arsenic. Please note that there are no available plant records which suggest the presence of these types of plating baths or materials at the Amphenol/Bendix facility during its operational life.
- 3) Respondents conducted a total closure of the former facility plating room area and underlying soil to a depth of nine feet below room floor level, and notification of completion of total closure was provided by IDEM on June 13, 1990 (RFI report, Section 2.3.6.).
- 4) The reported concentrations are within background ranges for soils as reported by Dragun (1991).

General Comment 8. Groundwater monitoring of the Unit D aquifer is discussed in Section 4.5.6 of the approved RFI report and summarized in Section 3.4.6 of the draft CMS report.

Specific Comment 1. Section 2.3 of the CMS report has been revised to indicate that the unit C till is 23 to 26 feet in thickness and that the Unit D sand is 17 to 20 feet thick.

Specific Comment 2. See reply to General Comment 7.

Specific Comment 3. See reply to General Comment 7. Section 4.5.1 of the approved RFI report indicates that total metals concentrations in excess of ARARs in groundwater was due to suspended solids. Total metals concentrations will be reduced in the ground water around the extraction wells only to the extent that in line filters will remove small amounts of suspended particulates from ground water pumpage. Analyses performed on the pumpage from the ICM on August 3, 1995 revealed that no dissolved metals were present above ARARs.

Specific Comment 4. Section 3.5 in the draft CMS report provides a summary of information found in the approved RFI report. The referenced Table 6 is part of the RFI report. Please refer to the approved RFI report for discussions of the surface water/surface sediment sampling and results.

Specific Comment 5. Section 3.6.1 incorrectly refers to PGP-10 as an upgradient well. The text has been revised to read PGP-13.

Specific Comment 6. A paragraph has been added to the end of Section 3.6.2 that discusses possible groundwater contamination at Hurricane Creek and references the Supplemental Work Plan. Please note that periodic inspections of Hurricane Creek indicate that the creek has continued to flow downstream from the vicinity of the storm sewer outfall.

Specific Comment 7. Subsurface contamination at the southwest corner of the blacktop parking area was at first tentatively ascribed to a surface spill of PCE because there was no known subsurface source and the apparent center of the spill was at the edge of the paved area. However, the field measurements collected while drilling in this area did not strongly support this hypothesis. MW-27 was installed to investigate this area. Soil samples were collected while drilling as described in the approved project QAPjP utilizing HNU screening to select samples for analysis (Section 4.8). Boring logs and HNU responses are provided in Appendix D of the approved RFI report. The HNU reading

in the 0-1.5 foot interval was zero. Readings increased with depth, and a sample was collected at about 15 feet, the area of the highest HNU reading, and just below the surface of the saturated zone (see reply to General Comment 4). There is no indication there is now any surface soil contamination at the southwest corner of the parking area.

Specific Comment 8. Section 3.8, third paragraph, is revised to indicate that metals concentrations in groundwater and soil reflect background concentrations, and that total and amenable cyanide levels are all below ARARs.

Specific Comment 9. See reply to General Comment 3. It is true that the RFI has not definitely established that VOCs at PGP-6, -7 and-13 (corrected from PGP-10) are not derived from the facility. This is one question that will be addressed through the proposed installation of permanent monitoring wells in off site areas along Forsythe Street. See reply to General Comment 3.

Specific Comment 10. See revised Sections 5.2.3.2 and 5.2.4.2. The entire residential area downgradient from the facility will be covered by institutional controls to the extent that they apply to the area. Since the definition of the Operable Areas is not affected by this change, Figure 5-1 will not need to be modified.

Specific Comment 11. Section 5.2.1 text has been revised to reflect the correct lithologic unit thicknesses (see reply to Specific Comment 1). Section 4.4.7 of the approved RFI report discusses data from soil samples collected from Unit C. Samples MW23-21.5 and MW25-35.0 have low levels of VOCs, but all concentrations are below ARARs. Therefore no action is required for Unit C.

Specific Comment 12. Notwithstanding the language of Section III, Section VII of the AOC is very specific about the scope of work and methods required for the RFI. Nowhere in the referenced IT Work Plan, or in the work plan modifications specified in the AOC is there a requirement to investigate air quality off site or on site. None of the EPA comments before or after draft RFI report submittal mentioned a requirement to investigate air quality. There are no sets of data that permit the question of air quality to be addressed in detail. Sections 5.2.2.3, 5.2.3.3, 5.2.4.3 and 6.3.1 of the approved RFI report have been revised to indicate that all RFI work was performed in accordance with the approved RFI work plan. We note that during the October, 1994 pump tests, Wehran Emcon periodically monitored vapor concentrations with an HNu photoionization detector in the sanitary sewer manhole into which pumpage was disposed and two additional sanitary sewer manholes. There was no HNu response above background levels. See Section 5.4.3.2 of the approved RFI report as well.

Specific Comment 13. See the reply to General Comment 5. Corrective measures in Area 1 will lower the surface of the water table below the storm sewer invert. At that point contaminant export to Area 2 will cease and over the long term, the potential source of contamination in Area 1 will be eliminated over time. There is no reason to suspect any contamination source for Area 2 other than Area 1, and removal of the Area 1 source will eliminate the need for further remediation of Area 2.

Specific Comment 14. The statement has been deleted as requested from Section 5.2.4.

Specific Comment 15. See Section 7.5 of the approved RFI report.

Specific Comment 16. See the reply to General Comment 3.

Specific Comment 17. According to a visual survey of the area, five residences along Forsythe Street have basements. No residences on Hamilton Avenue near the facility have basements. The rest are built on slabs or over crawl spaces. Our analysis concludes that there is little opportunity for

VOCs to accumulate in residential basements. Possible contaminant pathways for VOCs into residential basements include backup of VOC contaminated groundwater through sanitary sewers; direct infiltration of VOC contaminated groundwater into basements and migration of VOC vapors in soil gas through concrete slab and walls. According to Mr. Rick Littleton of the Franklin City Sewer Department, the invert of the sanitary sewer along Forsythe is approximately 8 feet below grade, or at least 3 feet above the top of the Unit B saturated zone. The floors of residential basements will have drains that must be higher than the invert of the sanitary sewer to drain properly. This interval, plus the fact that the sanitary sewer will at most times be carrying sanitary effluent, and that all flow gradients will be away from residences, indicates that the sanitary sewer will not intercept impacted ground water, and that a backup of the sanitary sewer will not introduce VOC impacted water into basements. The residences in this area appear to be no older than 30 to 40 years. Basements are installed with cement block walls and slab floors. The floors are will be at least four feet higher than the top of the saturated zone so that direct infiltration of contaminated groundwater into the basement is not possible. The block walls and slab floors should provide a nearly impermeable barrier to VOCs in soil gas.

Specific Comment 18. Section 5.3.2 and the operating cost estimate in Appendix C of the CMS report have been revised to include a semiannual groundwater sampling program.

Specific Comment 19. Horizontal SVE is not considered to be a viable option for this site since the relative area of contaminated soils is too small to justify the more intensive excavation required by this method, and because excavation in the sanitary sewer/storm sewer crossover area (the area of greatest soil contamination) could result in damage to one or both structures.

Specific Comment 20. Alternative 6 utilizing groundwater extraction and reinjection of treated water to promote soil flushing was not the recommended remedial alternative because it was not considered to be highly effective for the treatment of impacted soils. The selected alternative provided a more focused application of the remedial action (SVE and air sparging) with the potential for reducing the overall time frame for remediation. A discussion of the above will be provided in the revised CMS report.

Specific Comment 21. The first sentence of Section 8.2, paragraph 4 is deleted. The paragraph is revised to discuss the installation of monitoring wells. The last paragraph of Section 8.2 is modified to discuss remedial alternatives for contaminated groundwater in Area 3 and beneath Forsythe Street.

ATTACHMENT 1

STATISTICAL EVALUATION OF SELECTED INORGANIC DATA FROM UPGRADIENT AND DOWNGRADIENT SOIL SAMPLES

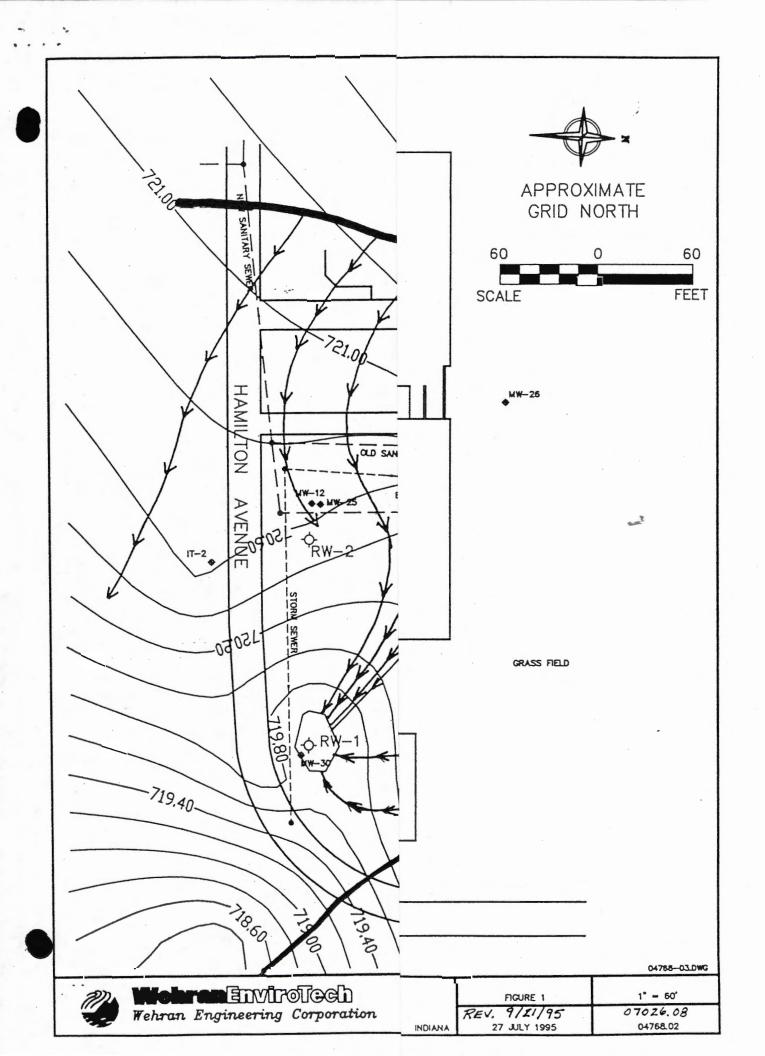
Data for four inorganic constituents (arsenic, beryllium, cobalt and manganese) measured in soil samples were evaluated to determine whether downgradient soil samples contained statistically different concentrations than upgradient soil samples. The data set included four upgradient samples and 25 downgradient samples. Because of the small number of upgradient data points, a comparison of individual downgradient data points to a 95% upper tolerance limit (UTL) based on the upgradient data was not performed since UTLs are relatively high when based on small numbers of upgradient samples. Therefore, an evaluation comparing the mean of the downgradient data to the mean of the upgradient data was performed to determine if the means for the downgradient data set were significantly different than the mean for the upgradient data set. A summary of the data used in this evaluation is contained in Table 1.

An evaluation of the distribution of the data sets indicated that the upgradient and downgradient samples were lognormally (natural log) distributed for the inorganics (e.g., log-transformed data were normally distributed). The distribution was determined through visual evaluation of histograms and probability plots and verified by using the Shapiro-Wilk test. As a result, t-tests were completed using log-transformed (natural log) data. The lognormal distribution is typical of data sets obtained from natural systems such as the one used in this study.

Levene's Test (U.S. EPA Guidance Document, Statistical Analysis of Groundwater Monitorig Data at RCRA Facilities - Addendum to Interim Final Guidance, July 1992) indicated that there was equal variance (using a 90% confidence level) between the upgradient and downgradient data for arsenic, cobalt and manganese. Therefore, the Student's t-test was used to evaluate the means of the data sets for those constituents. It was determined that there was no significant difference between the means of the upgradient and downgradient data sets (using a 95% confidence level) for arsenic, cobalt and manganese. Levene's Test indicated that there was not equal variance (using a 90% confidence level) between the upgradient and downgradient data for beryllium. Therefore the Welch's t-test was used to evaluate the means of the data sets for beryllium. It was determined that there was no significant difference between the means of the upgradient and downgradient data sets (using a 95%-confidence level) for beryllium.

Table 1
Summary of Non-Transformed Inorganic Data for Soils

Sample ID	Depth, feet	Inorganic Concentration (mg/kg)			
		arsenic	beryllium	cobalt	manganese
		Downgra	dient Data		
SB01	10	6.30	0.81	3.90	417
SB01	12	4.60	1.10	2.70	225
SB02	10	5.90	1.10	3.60	267
SB03	6	9.50	0.62	9.30	554
SB03	10	7.30	0.45	5.20	574
SB04	6	5.50	0.75	8.50	806
SB04	10	4.30	0.90	5.10	521
SB05	2	5.90	0.70	11.20	1000
SB06	8	5.40	0.49	4.10	325
SB06	17	2.20	1.10	2.60	189
SB07	8	2.50	0.21	1.20	174
SB07	18	1.70	0.21	1.50	165
SB08	2	3.60	0.62	8.60	754
SB08	19	2.60	1.20	3.00	188
SB09	12	3.80	0.21	1.90	235
SB09	18	2.20	0.25	1.90	181
MW21	12	4.60	0.21	1.80	426
MW21	18	2.30	0.24	2.10	137
MW22A	2	7.40	0.96	6.20	491
MW22	10	6.80	1.50	5.50	290
MW22	19	2.20	1.00	3.20	189
MW24	6	2.00	0.69	2.10	145
MW24	15	1.90	1.20	3.70	229
MW25	10	6.30	1.30	4.80	303
MW27	15	0.76	1.20	1.80	149
nean		4.30	0.76	4.22	357
tandard deviation		2.26	0.40	2.71	233
ninimum		0.76	0.21	1.20	137
naximum	-	9.50	1.50	11.20	1000
number of samples		25	25	25	25
MW20	6	Upgradi 4.10	ent Data 0.66	6.40	250
MW20	12	2.60	0.66	3.40	350
MW26	6	6.70		8.00	226 687
			0.57		
MW26	12	2.20	0.97	3.30	217
nean tandard deviation		3.90 2.04	0.67	5.28	370
		2.20	0.21	2.32	220
ninimum			0.49	3.30	217
naximum number of samples		6.70 4	0.97	8.00	687



Amphenol

ophenol Corporation

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492-7530 Telephone (203) 265-8900

December 7, 1994

DEGENED DEC 1 3 1994

OFFICE OF RCRA WASTE MANAGEMENT DIVISION EPA, REGION V

P.3.1

Mr. William Buller RCRA Enforcement Branch HRE-8J U.S. Environmental Protection Agency - Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

RECEIVED WMD RECORD CENTER

DEC 20 1994

Re: Administrative Order on Consent (AOC)

Franklin Power Products/Amphenol Corporation

IND 044 587 848

Corrective Measures Study (CMS)

Dear Mr. Buller:

Your letter of November 28, 1994, approving the CMS Work Plan with modifications, was received in our office on December 6, 1994 and delivered to my attention on December 7, 1994.

In view of the fact that your letter was received more than a week after its date, I requested, in a December 7, 1994 telephone conversation, that the draft CMS report be due 90 days from receipt of your letter rather than from the approval date. Under this scenario, we would transmit the draft report to you on March 6, 1994 via overnight mail for delivery on March 7, 1994.

During our conversation, you indicated that, subject to further internal discussions, this request would receive favorable consideration. Unless USEPA comments are received to the contrary, we shall proceed with developing a schedule using March 6, 1994 as the transmittal date of the draft CMS report.

Please don't hesitate to contact me should you have any questions regarding the above.

Sincerely,

Samuel S. Waldo

Director Environmental Affairs

c:

P. Perez

S. Gard



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

bcc: Peg Andrews File copy to Ancho S
12/2/96

REPLY TO THE ATTENTION OF:

HRE-8J

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Samuel Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut 06492-7530

> Administrative Order on Consent Re:

> > Franklin Power Products/Amphenol Corporation

IND 044 587 848

Dear Mr. Waldo:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the document "Work Plan for a Corrective Measures Study (CMS) for the Former Amphenol Facility, Franklin, Indiana" (hereinafter "Workplan") which was submitted in accordance with Section VII.3.a. of the Administrative Order on Consent (AOC), dated November 27, 1990. U.S. EPA hereby approves the abovereferenced document, with the exception of the background information provided in Sections 1 through 4 which are neither approved or disapproved nor validated by this response, and with the modifications (items 1 - 8) as stated below. Pursuant to Section VII.3.d. of the AOC, Respondents are required to submit a draft CMS report within ninety (90) days of approval of this Workplan.

Modifications

- (1) Sec. 5.0 In the event the Hurricane Creek sampling results are unavailable on the due date for submittal of the CMS draft report, this shall not delay the submittal of the CMS draft report and its recommendations. In the event dry conditions do not occur during the period from the date of approval (July 19, 1994) of the Supplemental Workplan, "Sampling Creek Bed Water in Hurricane Creek - RFI, Amphenol Corporation" to the CMS draft report due date. Respondents shall provide verification in the CMS draft report and in each AOC Section XI. monthly report thereafter that dry conditions did not occur. Within twenty (20) days of Respondents' receipt of the Hurricane Creek sampling results, the analytical results, and any proposed revisions to the draft or final CMS report if either has already been submitted, shall be submitted to U.S. EPA for review and comment in accordance with Section VII.3.d. of the AOC.
- (2) Sec. 6.2 The Corrective Measures Study shall address all media, soil, groundwater, surface water, and air. In addition to volatile organic

(8) The Corrective Measures Study shall be performed in accordance with all of the requirements of Attachment I of the AOC.

If you have any questions please call me at (312) 886-4568.

Sincerely,

William Buller, Project Manager IN/OH/MN Technical Enforcement Section

RCRA Enforcement Branch

William Bulle

cc: Michael Sickles, IDEM

J. Michael Jarvis, Franklin Power Products

ted on the reverse side?	SENDER: Complete items 1 and/or 2 for additional services. Complete items 3, and 4a & b. Print your name and address on the reverse of this form services are turn this card to you. Attach this form to the front of the mailpiece, or on the beautiful on the service of the mailpiece below the two whom the article was delivered. Article Addressed to:	back if space 1. Addressee's Address 2. Restricted Delivery Consult postmastar (
ADDRESS completed	SAMUEL WALDO AMPHENOL CORPORATION 358 HALL AVENUE PO BOX 5030 WALLINGFORD CT 06492-7530	4b. Service Type Registered Insured Certified COD Express Mail Return Receipt for
Our RETURN	Signature (Agent) September 1999 September 1	7. Date of Delivery (2 6 94 8. Addressee's Address (Only if requested and fee is paid)
97	±U.S. GPO: 1992—32	23-402 DOMESTIC RETURN RECEIPT

Amphenol

RECEIVED WMD RECORD CENTER

mphenol Corporation

NOV 30 1994

World Headquarters 358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

Via by Facsimile and by Overnight Mail

November 23, 1994

D.5.1

Ms. Uylaine E. McMahan, Chief HRE-8J IN/MN/OH Technical Enforcement Section US Environmental Protection Agency 77 West Jackson Boulevard Chicago, IL 60604-3590

NOV 28 1994

OFFICE OF RCRA WASTE MANAGEMENT DIVISION EPA, REGION V

Re: Administrative Order on Consent (AOC)

Franklin Power Products Inc./ Amphenol Corporation (Respondents)

IND 044 587 848

Dear Ms. McMahan:

We were surprised to receive on November 21, 1994 your letter dated November 14, 1994, advising Amphenol that stipulated penalties are accruing pending the collection and analysis of two soil samples from two Forsythe Street locations.

During the scope of this project, from its inception, we have worked closely with the Agency to further the requirements of the AOC. While there may have been bona fide differences of opinion in the past with respect to the specifics of how those goals would be met, we have always been able to reach an amicable compromise. Until receipt of your letter, we had believed that the issue at hand was also being addressed in the same manner. Hopefully, it still can be.

While we do not question the basic chronology presented in your letter, some additional clarification may be helpful. The Agency's letter of March 11, 1994 was a follow-up to a February 24, 1994 telephone conference call where the Respondents agreed to an Agency request to collect two additional samples from Forsythe Street. As you noted, the March 11, 1994 letter asked for three samples of ground water and soil; the request for soil samples was not as direct as indicated in your letter, however. To quote: "At least one sample shall also be collected at these same locations at depth intervals...." (emphasis added) In my letter to the Agency of March 25, 1994, I interpreted that sentence to mean one soil sample from at least one of the sampling locations. Our engineers also interpreted the Agency's requirement in the same way. The Agency's letter of April 22, 1994 did not clarify this apparent misconception. (I might note here that the Respondents never received a signed original of the April 22, 1994 letter; rather, an unsigned fax was sent to my attention on that date.)

Your letter indicates that the RFI Report was approved with reservations in a letter dated July 19, 1994. Our records differ slightly in that the July 19, 1994 letter was withdrawn because of typographical errors and replaced with a letter dated July 22, 1994. I would hesitate to categorize the approval contained in the July 22, 1994 letter as being made with reservations. That letter indicated that the only outstanding issues focused on additional data needs in Hurricane Creek during no-flow periods. Furthermore, there was no suggestion in that approval of an Agency concern regarding the pace of work at the site. In fact there was no mention of Agency dissatisfaction with the supplemental work performed on Forsythe Street, nor was there any mention of a continuing violation of the AOC due to the number of samples collected.

During the September telephone conversation, I did discuss the issue of the additional soil samples with Bill Buller. I also recall at least one additional conversation subsequent to that one during which the matter also arose. In neither of those conversations was the prospect of stipulated penalties suggested, nor did there appear to be an impasse in our discussions on how best to address this matter. In fact, on both occasions I offered a concrete proposal to correct what the Agency perceived as a data gap. Specifically, I indicated that it was clear that a part of the final remedy would be the placement of traditional monitoring wells at a minimum of two locations along Forsythe Street to allow a long term evaluation of the fate of the plume in that area. I indicated that additional soil samples could easily be collected during that installation. While Mr. Buller did not indicate an Agency position on this suggestion, he did acknowledge that it was one way to address this matter. In view of the above, you can understand our dismay upon receiving your letter of November 14, 1994 as the next communication.

We still hope that this matter can be resolved amicably. Although we believe that we satisfied our obligations under the AOC by collecting the one soil sample, we are making arrangements to collect the two additional soil samples in question with all deliberate speed. Notwithstanding that, and in order to protect our rights under the AOC and to suspend the accrual of additional potential stipulated penalties pending resolution, we are hereby invoking the provisions of Paragraph XVIII, Dispute Resolution, of the AOC. In addition, given the language of the March 11, 1994 letter, our acknowledgment of March 25, 1994 and the Agency's reply of April 22, 1994, it is clear that our interpretation of the requirements regarding the collection of soil samples, although arguably incorrect, was grounded in good faith and reasonableness so as to constitute an excusable delay under Paragraph XIX of the AOC.

As has always been the case, we are available to discuss this matter. Please contact me at (203)265-8760 if you have any questions regarding the above or to schedule a time to discuss resolution.

Yours Sincerely,

Samuel S. Waldo

Director of Environmental Affairs

c: P. Perez

S. Gard

J. Keith



phenol Corporation

World Headquarters

358 Hall Avenue P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

September 7, 1994

Mr. Kevin Pierard, Chief Technical Enforcement Section #1 USEPA Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

RE: Administrative Order on Consent (AOC)

Franklin Power Products/Amphenol Corporation

IND 044 587 848

Dear Mr. Pierard:

Your letter of August 30, 1994 was received by the Respondents on September 6, 1994. As you may have already noted, the Corrective Measures Study (CMS) Work Plan was delivered to your offices on September 6, 1994 pursuant to the AOC and your letter of July 22, 1994.

After reading your latest correspondence, it would appear that there may be some misunderstanding regarding the Respondents' intentions with respect to the Interim Corrective Measures (ICM) planned and the CMS. We fully understand that the CMS must evaluate all applicable and appropriate remedies for the Site. It has never been our intent to suggest that CMS would evaluate only one remedial alternative for groundwater or that the CMS would be limited in its evaluation of all the remedial needs at the facility. The Work Plan submitted should be clear on that count.

Nonetheless, we believe it would be imprudent to neglect the opportunity afforded to both the Respondents and the USEPA through the early implementation of a probable portion of the final remedy. At the same time the area of greatest contamination is being treated, the data gathered will provide invaluable insight into the capture zone of onsite recovery wells, the potential for flow reversal and subsequent capture of portions of the offsite plume and the effectiveness of our efforts to prevent interception of groundwater by the storm sewer. In addition, should additional soil treatment be indicated by the CMS, the data from the ICM can be also used to evaluate the feasibility of dewatering Unit B. In contrast to the data generated during the RFI which identified the nature and extent of site-related constituents, this information addresses the efficacy of potential remedial measures; furthermore, we believe these data would have to be collected and evaluated before any remedial measures could be finalized.



D. 4.1

On a related matter, the Respondents recognize that the AOC currently requires that a draft CMS report is due within 90 days of the USEPA's approval of the Work Plan. We believe, however, that the AOC is a dynamic document, able to accommodate changes in a project's scope over its life. Section XXIV (Subsequent Modification) was clearly included for just that purpose. We need look no further than the time necessary to complete the RFI activities for this project to see that the AOC can be easily modified when Site-specific conditions warrant. We are, therefore, reiterating our request for an amendment by mutual agreement pursuant to Section XXIV.1 to include the schedule included in our CMS Work Plan as part of the AOC. Such an amendment is consistent with the USEPA's goal of ensuring that the Corrective Measure(s) most fully meet technical, human health and environmental criteria.

The Respondents remain available to discuss this matter with you should you desire it. If you require some additional information or if you have any questions, please contact me at (203) 265-8760.

Sincerely,

Samuel S. Waldo

Director Environmental Affairs

S042

c:

S. Gard

P. Perez





phenol Corporation

World Headquarters 358 Hall Avenue

P.O. Box 5030 Wallingford, CT 06492 Telephone (203) 265-8900

September 2, 1994



U.S. EPA REGION V

Mr. Kevin Pierard, Chief Technical Enforcement Section #1 (HRE-8J) **USEPA** Region 5 77 West Jackson Boulevard Chicago, IL 60604-3590

Franklin Power Products/Amphenol Corporation Re:

IND 044 587 848

Corrective Measures Study (CMS) Work Plan

Dear Mr. Pierard:

Enclosed please find the CMS Work Plan submitted pursuant to the Administrative Order on Consent (AOC) dated November 27, 1990, and your letter of July 22, 1994.

In prior correspondence and telephone communications with the USEPA, Respondents have proposed the implementation of an Interim Corrective Measure (ICM) at the site. Likewise, the USEPA, on several occasions has encouraged the development of an ICM (see letter dated September 2, 1993 to Mr. J. Michael Jarvis). Those efforts, consisting of an onsite groundwater pump and treat system, are currently underway. The ICM was undertaken with the general understanding between the USEPA and Respondents that a groundwater pump and treat system of some type will be a significant part of the final corrective measures for this site.

In view of the above, Respondents believe that the CMS Work Plan would be incomplete without providing for a performance assessment of the ICM. The resulting CMS document will enable the Respondents to present a much more accurate assessment of remedial alternatives and will allow the USEPA to select the most appropriate remedial measures.

The AOC is clear that once the CMS Work Plan is approved by the USEPA, the schedule included therein becomes an enforceable provision of the AOC under Section XXIV.2. If the USEPA deems it necessary, the Respondents would certainly concur with including the proposed schedule through an amendment by mutual agreement pursuant to Section XXIV.1 of the AOC.

If there are any questions or if you would like to discuss this matter, please contact me at (203) 265-8760.

Sincerely,

Samuel S. Waldo

Director Environmental Affairs

S038

C:

S. Gard

P. Perez

R. Williams (IDEM)

M. Jarvis



CERTIFIED MAIL RETURN RECEIPT REQUESTED

HRE-8J

Mr Samuel Waldo Director of Environmental Affairs Amphenol Corporation 358 Hall Avenue P.O. Box 5030 Wallingford, Connecticut 06492-7530

> Re: Administrative Order on Consent Franklin Power Products/Amphenol Corporation IND 044 587 848

Dear Mr. Waldo:

As stated in the United States Environmental Protection Agency's (U.S. EPA) letter dated July 22, 1994, and which was faxed to you on that date, the Corrective Measures Study (CMS) Work Plan shall be submitted within forty-five (45) days of receipt of the letter (September 5, 1994).

As you indicated in your letter of August 2, 1994, there has been general consensus among Respondents and U.S. EPA personnel involved in the project on the appropriateness of a groundwater pump and treat system as "an integral part of the final remedy". This is consistent with U.S. EPA Guidance, Directive 9902.3-2A, which provides that it may be appropriate for the implementing agency to allow the Respondent to evaluate only one alternative in the CMS. Accordingly, the CMS Work Plan may focus on the development of a pump and treat system as a specific element of the overall remedy and must also address any additional corrective measures/alternatives necessary to deal with the remaining remedial needs at the facility. The Administrative Order on Consent ("AOC") requires Respondent to submit within ninety (90) days of U.S. EPA approval of the CMS Workplan a draft report which evaluates the alternatives to address all remedial needs at the facility.

As you are aware, it is U.S. EPA's policy to request, and the AOC requires, public comment on the Administrative Record and any proposed corrective measure(s). While the design and construction of the pump and treat system may overlap the CMS activities and you may proceed with them consistent with the approved CMS Work Plan and the final corrective measure(s), as you are aware, the AOC has no provision for the implementation of a pump and treat system. We are quite confident the pump and treat system will be part of the final remedy, but its selection is subject to public comment as provided for in the AOC and is subject to final order as are all corrective measures. In accordance with Section X of the AOC, a forty-five (45) day period for negotiation of a new AOC for implementation of the corrective measure(s)

Amphenol

phenol Corporation

d Headquarters
Hall Avenue
Box 5030
Wallingford, CT 06492-7530
Telephone (203) 265-8900

August 2, 1994



OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V.

D.2. (

Mr. Kevin Pierard, Chief
Technical Enforcement Section #1 (HRE-8J)
USEPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Franklin Power Products/Amphenol Corporation IND 044-587-848 USEPA Letter received by fax on July 22, 1994

Dear Mr. Pierard:

I am in receipt of your letter regarding the approval of the RFI for the subject facility and the request for a Corrective Measures Study (CMS) Work Plan to be submitted within 45 days (on or about September 5, 1994). In addition, I acknowledge that the Hurricane Creek sampling plan dated June 14, 1994 has also been approved with the condition that cyanide and metals be included in the list of analytes.

As you are aware Respondents have proposed the implementation of an interim corrective measure (ICM) consisting of the installation of a groundwater pump and treat system on the plant site. A contractor, WehranEmcon, has been selected to perform this work, subject to the completion of all contract documents.

In reviewing the possible corrective measures alternatives for this site, there has been general consensus among Respondents and USEPA personnel involved in the project that a groundwater pump and treat system will be an integral part of the final remedy. The design and construction schedule of approximately 5-6 months will overlap CMS activities. In order that the effect of the ICM can be taken into account in determining what, if any, additional measures are necessary, Respondents request that the time permitted to prepare and submit a work plan for the CMS be extended to allow for completion and evaluation of the ICM.

We are aware the ACO specifies that the CMS work plan is due within 45 days of USEPA's approval of the RFI. However, we are also all aware that these time periods were arrived at four years ago when no one contemplated the performance of the interim corrective measures which have been proposed by Respondents with USEPA encouragement. If USEPA is of the view that the deadline for completion of the CMS cannot be extended without a modification to the ACO then Respondents hereby make an application for modification of the Order under sections XXIV and XVIII of the same.

Clearly, the CMS report will be a more accurate document if the effect of the ICM activities are included. While we are ready and willing to discuss other alternatives to those presented, we remain convinced that an extension of the time necessary to complete the CMS is warranted.

Please don't hesitate to contact me to discuss this matter further.

Sincerely,

Samuel S. Waldo

Director Environmental Affairs

SW030

C:

S. Gard

P. Perez

Michael Jarvis, President Franklin Power Products, Inc. Amphenol Corporation 400 Forsythe Street Franklin, Indiana 46131

> Re: Franklin Power Products, Inc. Amphenol Corporation IND 044 587 848

Dear Mr. Jarvis:

The United States Environmental Protection Agency (U.S. EPA) has received a copy of the Technical Memorandum (Draft) dated June 23, 1992. This report constitutes satisfaction of section VII 2.a(4)(c)(ii) of the Administrative Order on Consent (AOC). As acknowledged in this report, the ground water contaminant plume cannot be delineated with the information available. Therefore in accordance with section VII 2.a(4)(c)(iii) of the AOC, you are now obligated to submit to U.S. EPA, within thirty (30) days of receipt of this letter, a plan proposing additional sampling to properly delineate the contaminant plume.

If you have any questions, please call William Buller, of my staff, at (312) 886-4568.

Sincerely yours,

ORICINAL STEARD BY JOSEPH M. BOYLE

Joseph M. Boyle, Chief RCRA Enforcement Branch



January 10, 1992

RECEIVED

JAN 15 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION W

Bill Buller U.S. EPA, Region V, 5HR-12 230 South Dearborn Street Chicago, Illinois 60604

Dear Mr. Buller:

SUBJ: CLARIFICATION OF SURFACE WATER SAMPLING POINTS FOR FORMER AMPHENOL FACILITY RFI/CMS

In reviewing the documents for the upcoming RFI/CMS at the former Amphenol Facility RFI/CMS, I came across an apparent conflict in the wording of the Consent Order regarding surface water sampling, and how it was treated in the Field QAPjP. I have some suggested changes.

The IT Work Plan states that additional sampling of the surface water and sediments is required to determine the nature and extent of the impact of storm sewer discharges to Hurricane Creek (Section 4.4). Surface water samples are to be collected at the discretion of the EPA on-site coordinator (Section 4.4.1). The proposed sample points are SW01 (background Hurricane Creek); SW02 (discharge point of the storm drain on Hurricane Creek); SW03 and SW04 (downstream of discharge point on Hurricane Creek), and SW05 (inlet of the storm drain upgradient from the study area). Figure 14 of the IT Work Plan and Figure 4 of the QAPjP show those locations.

The Consent Order indicates that a sample will be "collected from the storm drain just upstream from the discharge point" (VII.2.a.(6)), but then states that dissolved oxygen only will be measured at SW02, SW03 and SW04. SW05 is not mentioned in the

Consent Order, and so stands as written in the IT Work Plan. By implication, SW01 is the point that will be sampled, but SW02 is the only location that conforms with the description "from the storm drain just upstream from the discharge point.", so SW02 should be the location of the sample. An accompanying sketch map shows the relationship of the storm drain outfall to Hurricane Creek. The initial version of the QAPjP attempted to address this apparent discrepancy by switching the locations of SW 1 and SW 2 (corresponding with IT SW01 and SW02) on Figure 4. Agency comments on the QAPjP indicated that the locations on the QAPjP Figure 4 should conform with the IT Figure 14, and they were switched back; however I neglected to change the text.

the state of the s

If the intent of the surface water sampling is to check the quality of the water entering and leaving the storm drain, then SW 2 and SW 5 should be sampled rather than SW 1 and SW 5. Supporting text in the QAPjP would then read as follows (old text struck through and changes underlined):

1.5 Sample Network and Rationale (paragraph 2, page 6 of 7 of Section 1.0)

Figure 3 shows the location of six existing ground water monitoring wells (IT 1A, IT 2, IT 3, MW 3, MW 9 and MW 12), and seven new wells (MW 20, MW 21, MW 22, MW 23, MW 24, MW 25 and MW 26) to be installed by WWES. Off site sampling points for surface water and sediments are shown in Figure 4. SW 1 SW 2 is the discharge point for the storm sewer into Hurricane Creek, roughly corresponding to IT sampling point SD 5 SW02. SW 5 is a background storm sewer sampling point just northwest of the site. Both of these samples will be surface grab samples. At points SW 2 SW 1 (upstream Hurricane Creek), and points SW 3 and SW 4 (downstream Hurricane Creek) field measurements of dissolved oxygen only will be made.

4.6 Surface Water Sampling Procedures (pages 4 of 10 and 5 of 10 of Section 4.0)

Surface water points will be sampled in the order SS-1 and SS-5 SW 2 and SW 5. SS-2

SW 1, 3 and 4 will have dissolved oxygen only measured. If water depth permits,

samples will be collected by immersing the container directly into the flow, beginning

with volatiles and ending with metals. If water depth does not permit, water will be

gathered in a precleaned stainless steel bowl, and sample containers will be filled by

immersing them in the bowl. An aliquot will be retained for measuring pH, conductivity

and DO. Samples will be preserved and handled as described in Section 4.5, except that

there will be no filtration of the sample for metals analysis. After sampling, outfall flow

will be determined at SS-1 SW 2 and Hurricane Creek at just above the outfall using a

Pygmy meter.

We are going ahead and setting up the field work, and are not allowing this question to

interfere with our other activities. However, we would like to have an agency opinion on

this matter whenever possible. If you have any questions, please let me know.

Very truly yours,

Project Manager

attachment

cc: Susan Gard

3

about + N Ocreek / Hurricana

> We propose to collect a sample of (5W2) Flow would be measured at (1 and 3

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Address Reply to:
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Indianapolis, IN 46206-1964

September 11, 1985

Mr. William Miner, Chief Hazardous Waste Enforcement Branch U.S. EPA, Region V 230 South Dearborn Street Chicago, IL 60604

Dear Mr. Miner:

Re: Request for a Corrective Action Order Allied Amphenol Products Bendix-Allied Facility 980 Hurricane Road Franklin, Indiana IND 044587848

Per Mr. David A. Stringham's letter received June 5, 1985, to Mr. David D. Lamm, Director, Division of Land Pollution Control, (enclosed), this is a request for a Corrective Action Order under the Hazardous and Solid Waste Amendments of 1984.

The Bendix Facility in Franklin, now owned by Allied Amphenol Products, (Allied), has had a documented release of listed organic solvents, (F001), and cyanide plating bath solutions, (F002).

The Company hired Chemical Waste Management, Inc., to carry out a cleanup at the facility which included removing the plating room floor (concrete slab), and approximately seven (7) feet of soil approximately 327 cu. yd. The soil was disposed of at Adams Center Landfill, Fort Wayne, Indiana, under their generic approval as (F008). The contact person for Chemical Waste Management, Inc., is Mr. John Renkes.

Subsequent communications revealed a cracked sewerline that was bypassed by installing two (2) new manholes and three-hundred five (305) lineal feet of 8" PVC sewerline. The old sewerline, however, was left in place. In communication dated May 29, 1985, from Allied, to Mr. Roy Harbert, Division of Land Pollution Control, (enclosed), it was stated that the new sewerline was off set thirty-five (35) feet from the old sewerline to avoid excavation of contaminated subsoils.

Soil samples taken in the area of the broken sewerline ranged from 1 ppm to 77.48 ppm of volatile organic compounds as well as cyanide contamination.

Also, there is an underground storage tank on-site used for storage of cyanide plating wastes, which has not been addressed in the sampling and cleanup activities.

It is Allied's contention that the cleanup is adequate and they do not wish to go through closure. Instead, they wish to sell the facility as a treatment, storage, or disposal facility.

It is requested that a Corrective Action Order be issued addressing the old sewerline and the underground storage tank.

Enclosed please find correspondence, interoffice memos, and diagrams relevant to this situation. If you should have any further questions, please contact Mr. Michael E. Sickels, R.P.S., of this Division, at AC 317/243-5047.

Very truly yours,

David D. Lamm, Director

Division of Land Pollution Control

MES/sk Enclosures

cc: Mr. Joseph Boyle, U.S. EPA, Region V

Ms. Sally K. Swanson, U.S. EPA, Region V

Mr. Roy E. Harbert

Ms. Margarita M. Mogollon Ms. Jacqueline W. Strecker

Johnson County Health Department /

